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# Lake Huron Bibliography with Limited Summaries

Michigan Univ., Ann Arbor

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Environmental Protection Agency, Chicago, IL

1981

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To assist with interpretation of the 1980 Lake Huron intensive survey data, a bibliography was prepared. The literature is divided into six categories: biology; chemistry; geology (chronology, history, and land use); inputs; modeling; and physics. References are repeated under all categories to which they apply. For all but the abstracts and a few articles, short summaries are included.

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THE UNIVERSITY OF MICHIGAN

# Lake Huron Bibliography With Limited Summaries

RONALD ROSSMANN
THOMAS TREESE

Special Report No. 88
of the
Great Lakes Research Division

REPRODUCED BY
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# LAKE HURON BIBLIOGRAPHY
# WITH LIMITED SUMMARIES

by

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Thomas Treese

Under Contract With:

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Special Report No. 88
of the
Great Lakes Research Division
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1981

# INTRODUCTION

The following is a bibliography for Lake Huron. The literature has been divided into six categories: biology; chemistry; geology (chronology, history, and land use); inputs; modeling; and physics. References are repeated under all categories to which they apply. For all but the abstracts and a few articles, short summaries are included. The senior author intends to update this bibliography. Anyone having corrections or additions should so advise him.

# TABLE OF CONTENTS

page

INTRODUCTION .................................................... iii

I. LAKE HURON BIOLOGY .......................................... 1

II. LAKE HURON CHEMISTRY ....................................... 46

III. LAKE HURON GEOLOGY: CHRONOLOGY, HISTORY, AND LAND USE ..... 81

IV. LAKE HURON INPUTS .......................................... 91

V. LAKE HURON MODELING ......................................... 104

VI. LAKE HURON PHYSICS ......................................... 111

ACKNOWLEDGMENTS ................................................ 143

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## I

# LAKE HURON BIOLOGY

NOTE: This list contains references which pertain to the biological aspects of Lake Huron as defined by the numbers following each reference. Subjects corresponding to the numbers are as follows:

(1) Benthos
(2) Fish
(3) Fungi, Myxomycetes, and Bacteria
(4) Plants, Macrophytes, and Algae
(5) Zooplankton

Alexander, D. R., and Maccrimmon, H. B. 1974. Production and movement of juvenile rainbow trout (*Salmo gairdneri*) in a headwater of Bothwell's Creek, Georgian Bay, Canada. J. Fish. Res. Board Can. 31:117-121. (2)

Site: Bothwell's Creek
Topic: Report of the annual yield and change in population of rainbow trout in a spawning stream. Age distribution and emigration statistics are also presented.

Alexander, G. R. 1977. Consumption of small trout by large predatory brown trout in the north branch of the Au Sable River, Michigan. Fisheries Res. Report No. 1855, Fisheries Div., Michigan Dept. Nat. Resources. (2)

Site: Au Sable River
Topic: Sampling of fish stomachs to analyze their dietary behavior, predator-prey relationships and estimates of trout populations are presented.

Alley, W. P., and Powers, C. F. 1970. Dry weight of the macrobenthos as an indicator of eutrophication of the Great Lakes, pp. 595-600. *In*: Proc. 13th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Lakes Huron, Michigan, Erie, and Superior
Topic: The dry weight of the macrobenthos was used as an indicator of the degree of eutrophication in the various Great Lakes. The value of 1,48 gm/m$^2$ for Lake Huron was taken as indicative of mesotrophic conditions.

Alley, W. P., and Powers, C. F. 1970A. The macrobenthos as an indicator of eutrophication of the Great Lakes, p. 24. (Abstr.) *In*: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Anderson, M. L. 1980. Degradation of polychlorinated biphenyls in sediments of the Great Lakes. Ph.D. thesis, Univ. Michigan. 256 pp. (3)

Applegate, V. C. 1950. Natural history of the sea lamprey (*Petromyzon marinus*) in Michigan. Special Sci. Report: Fisheries, No. 55, U. S. Fish and Wildlife Serv. 237 pp. (2)

Site: Lakes Michigan, Huron, Superior, and streams of Michigan
Topic: Life history of the sea lamprey, its spread through the Great Lakes, distribution, spawning grounds, spawning and migratory behavior, physical characteristics, etc.

Armstrong, F. A. J., and Lutz, A. 1977. Lake Huron, 1974: PCB, chlorinated insecticides, heavy metals and radioactivity in offshore fish. Fish. Res. Board Can., Tech. Report No. 692. 15 pp. (2)

Site: Lake Huron and Georgian Bay
Topic: Analysis of L. Huron fish for contaminants (PCB, dieldrin, DDT, Hg, BHC, Methoxychlor, chlordane, As, Cd, Cr, Cu, Ph, Se, Zn et al.). In addition, length, weight and fat content are listed. Analysis by spark source mass spec. and AAS, and results compared.

Auer, M. T., and Canale, R. P. 1979. Phosphorus uptake in relation to stored phosphorus levels in *Cladophora* at a site on Lake Huron, p. 25. *In*: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Auer, M. T., and Canale, R. P. 1980. Phosphorus uptake dynamics as related to mathematical modeling of *Cladophora* at a site on Lake Huron. J. Great Lakes Res. 6:1-7. (4)

Site: Near Harbor Beach, Michigan
Topic: Mathematical modeling of phosphorus uptake rates by *Cladophora*. *Cladophora* collected near the Harbor Beach wastewater treatment plant and at some distance from the plant.

Auer, M. T., and Canale, R. P. 1981. Projections of *Cladophora* growth in the Laurentian Great Lakes, p. 47. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Auer, M T., Canale, R. P., Graham, J. M., and Hoffman, J. P. 1980. Photosynthetic requirements of *Cladophora glomerata* as related to distribution patterns in the Great Lakes, p. 67. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Baldwin, N. S. 1948. The American smelt, *Osmerus mordax* (mitchill), of South Bay, Manitoulin Island, Lake Huron. Trans. Amer. Fish. Soc. 77:176-180. (2)

Baldwin, N. S., and Saalfeld, R. W. 1962. Commercial fish production in the Great Lakes 1867-1960. Great Lakes Fisheries Commission, Tech. Report No. 3. 166 pp. (2)

Site: Great Lakes
Topic: Tables listing fish production in each of the Great Lakes as year vs. particular region of each Great Lake. Broken down by individual type of fish.

Bangham, R. V. 1955. Studies on fish parasites of Lake Huron and Manitoulin Island. Amer. Midl. Nat. 33:184-194. (2)

Barton, D. R., and Hynes, H. B. N. 1976. The distribution of Amphipoda and Isopoda on the exposed shores of the Great Lakes. J. Great Lakes Res. 2:207-214. (1)

Site: Canadian shorelines of the Great Lakes including the periphery of Georgian Bay
Topic: This study deals with the distribution of amphipods and isopods on various substrates in the nearshore areas of the Great Lakes.

Barton, D. R., and Hynes, H. B. N. 1978. Seasonal study of the fauna of bedrock substrates in the wave zones of Lakes Huron and Erie. Can. J. Zool. 56:48-54. (1)

Site: Howdenvale (L. Huron) and L. Erie
Topic: Sampling of macrofauna inhabiting bedrock substrates of the wave zones in the above areas. Seasonal abundance and population composition were examined.

Barton, D. R., and Hynes, H. B. N. 1978A. Wave-zone macrobenthos of the exposed Canadian shores of the St. Lawrence Great Lakes. J. Great Lakes Res. 4:27-45. (1)

Site: Canadian shorelines of the Great Lakes
Topic: Qualitative collections of macroinvertebrates along Great Lakes shores (including Georgian Bay, Lake Huron) were made. The variety and abundance of invertebrates is related to substrate type, and lists of the species and their relative abundances are given.

Barton, D. R., Carter, J. C. H., and Watson, N. H. 1980. A comparison of nearshore and offshore benthic samples for the detection of organic enrichment, p. 35. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Basch, R., Hesse, J., Massey, A., Truchan, J., Willson, R., and Wuerthele, M. 1972. Biological survey of the Tittabawassee River 1971-1972. Mich. Water Resources Comm., Dept. Nat. Resources, Water Quality Div. 98 pp. (1, 2, 4)

Site: Tittabawassee River, including Pine and Chippewawa Rivers
Topic: Analysis of water for $NH_3$, pH, temperature, alkalinity.

Batac-Catalan, Z., Krezoski, J. R., Robbins, J. A., and White, D. S. 1980. Distribution and abundance of zoobenthos in muddy deposits of lower Saginaw Bay, Lake Huron, p. 63. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Beeton, A. M. 1960A. Great Lakes limnological investigations, pp. 123-128. *In*: Proc. 3rd Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 4, Univ. Michigan. (1, 4, 5)

Site: Lakes Michigan, Huron, Erie, and Superior
Topic: Biological and chemical aspects of these Great Lakes. Including Total P, $NH_3$, $S_iO_2$, pH, conductivity, alkalinity, Ca, mg, K, Na, and sulfate data from Lake Huron and mouth of Saginaw Bay.

Beeton, A. M. 1960B. The vertical migration of *Mysis relicta* in Lakes Huron and Michigan. J. Fish. Res. Board Can. 17:517-539. (5)

Site: Lake Michigan near Grand Haven and near Harbor Beach
Topic: Continual sampling of the zooplankton *Mysis relicta* revealed that it migrates rapidly and daily in response to changing light conditions. The change in this pattern over the year is also noted.

Beeton, A. M. 1965. Eutrophication of the St. Lawrence Great Lakes. Limnol. Oceanogr. 10:240-254. (1, 2, 4, 5)

Site: Great Lakes
Topic: Classification of the eutrophic state of each of the Great Lakes, based on physical (Secchi disk, conductivity), chemical (Ca, $SO_4^=$, dissolved oxygen, alkalinity, K, Na, $Cl^-$, total dissolved solids) and biological (phytoplankton, zooplankton, fish) factors. Trends from 1800s to 1960s are plotted and discussed.

Beeton, A. M. 1966. Indices of Great Lakes eutrophication, pp. 1-8. *In*: Proceedings 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15. (1, 2, 4, 5)

Site: Great Lakes
Topic: Eutrophication indicators.

Beeton, A. M. 1969. Changes in the environment and biota of the Great Lakes, pp. 150-187. *In*: Beeton, A. M. and Edmondson, W. T. (eds.), Eutrophication: causes, consequences, correctives. Natl. Acad. Sci., Washington, D. C. (1, 2, 4, 5)

Beeton, A. M. 1970. Statement on pollution and eutrophication of the Great Lakes. Center for Great Lakes Studies, Spec. Report No. 11, Univ. Wisconsin. 35 pp. (2)

Site: Great Lakes
Topic: Synopsis of changes in the Great Lakes, and the reason(s) for them. Study focuses on the effect of man and pollution.

Beeton, A. M., and Chandler, D. C. 1963. The St. Lawrence Great Lakes, pp. 535-558. *In*: D. G. Frey (Ed.) Limnology in North America, Univ. Wisconsin, Madison. (1, 2, 4, 5)

Site: Great Lakes
Topic: Overall view of physical, chemical, and biological characteristics in the Great Lakes.

Bell, G. L. 1980. Straits of Mackinac chemical and physical characteristics data for 1973. NOAA Data Report ERL GLERL-11. 11 pp. (3)

Site: Straits of Mackinac and St. Mary's River
Topic: Determination of water quality, extent of mixing, sediment characteristics, and microbiology (bacterial). In addition, meteorological data were collected at each station. Parameters measured: pH, Eh, $Cl^-$, alkalinity, nitrate, $PO_4^{=}$, Si, Mg, Ca, Na, K, and temperature). The primary aim of this study was to assess the impact of Lake Michigan water on Lake Huron.

Bensley, B. A. 1915. The fishes of Georgian Bay, pp. 1-52. *In*: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (2)

Site: Georgian Bay (Go-Home Bay)
Topic: Description of the fish population of Georgian Bay; abundance, variety, description, habits, and spawning.

Berst, A. H. 1961. Selectivity and efficiency of experimental gill nets in South Bay and Georgian Bay of Lake Huron. Trans. Amer. Fish. Soc. 90:413-418. (2)

Site: South Bay and Georgian Bay
Topic: Comparison of new nylon-mesh gill nets with the older cotton/gill nets relative to fish yield and size of catch, over 2-6 year period.

Berst, A. H., and Payne, N. R. 1974. Stream migration of yearly splake (*Salvelinus frontinalis*, S. *namaycush*) planted in Georgian Bay. J. Fish. Res. Board Can. 27:1017-1032. (2)

Site: South Bay, Lakes Erie and Ontario
Topic: Discovery of a fish parasite of the mongenean group, previously unreported in Great Lakes fish. Intensity of infection and incidence were greatest in South Bay.

Berst, A. H., and Spangler, G. R. 1970. Population dynamics of splake (Salvelinus frontinalis, S. namaycush) in Lake Huron. J. Fish. Res. Board Can. 27:1017-1032. (2)

Site: Burnt Island Bay, Manitoulin Island
Topic: Population statistics of a group of splake, planted in 1966. Sex ratio size, growth rate, diet, and frequency of lamprey attack are all discussed.

Berst, A. H., and Spangler, G. R. 1972. Lake Huron: Effects of exploitation, introduction, and eutrophication on the Salmonid community. J. Fish. Res. Board Can. 29:877-887. (2)

Site: Lake Huron
Topic: Discussion of the factors responsible for the dramatic decline of the fish industry of Lake Huron since the 1940s.

Berst, A. H., and Spangler, G. R. 1973. Lake Huron. The ecology of the fish community and man's effect on it. Great Lakes Fish. Comm., Tech. Report No. 21. 41B. (2)

Site: Lake Huron, Georgian Bay, North Channel
Topic: Review of Lake Huron limnology and application to the fishery industry. A discussion of fish yields, abundances, and breeding grounds of the dominant species are discussed. The effect of the lamprey is also presented.

Berst, A. H., and Wainia, A. A. 1967. Lamprey parasitism and rainbow trout in southern Georgian Bay. J. Fish. Res. Board Can. 24:2539-2548. (2)

Site: Nottawasaga River, Georgian Bay
Topic: Incidence of lamprey wounds and scars on Lake Trout as related to size and reduction in lamprey populations.

Bierman, V. J., Jr., and Dolan, D. M. 1976. Mathematical modeling of phytoplankton dynamics in Saginaw Bay, Lake Huron, pp. 773-779. In: Proc. Conf. Environmental Modeling and Simulation. USEPA, Report No. EPA-600/9-76-016. (4)

Site: Saginaw Bay
Topic: A phytoplankton production model was developed and applied to physical, biological, and chemical (nutrients) parameters in Saginaw Bay. The model includes 5 phytoplankton and 2 zooplankton and is geared to a cause-effect relationship with nutrient concentrations.

Bierman, V. J., Jr., and Dolan, D. M. 1979. A spatially segmented multi-class phytoplankton model for Saginaw Bay, Lake Huron, p. 23. In: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Bierman, V. J., Jr., Dolan, D. M., and Otlewski, M. A. 1978. A spatially segmented multi-class phytoplankton model for Saginaw Bay, Lake Huron, p. 11. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Bierman, V. J., Jr., and Richardson, W. L. 1976. Mathematical model of phytoplankton growth and class succession in Saginaw Bay, Lake Huron, pp. 159-173. In: Water Quality Criteria Research of the USEPA, Proceedings of an EPA-Seonsceed Symposium. USEPA Report No. EPA-600/3-76-079. (4)

Site: Saginaw Bay
Topic: Development of a model to describe the effect of waste loading on Saginaw Bay in terms of biological (phytoplankton), chemical (P, N, Si), and physical processes.

Bierman, V. J., Jr., Richardson, W. I., and Dolan, D. M. 1976. A multi-class phytoplankton production model for Saginaw Bay, Lake Huron, p. 33. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Bissonette, M. A. 1915. List of Georgian Bay fleshy fungi and myxomycetes, pp. 213-218. In: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (4)

Site: Georgian Bay area
Topic: List of fungi found in Georgian Bay area and their location.

Bligh, E. G. 1972. Mercury in Canadian fish. Can. Inst. Food Sci. Technol. J. 5:A6-A14. (2)

Braem, R. A., and King, B. I., Jr. 1971. Albinism in lampreys in the upper Great Lakes. Copeia 1971:176-179. (2)

Site: Lakes Michigan, Huron, and Superior
Topic: Report of the occurrence and physical descriptions of rare albino varieties of the different lampreys of the upper Great Lakes.

Bricker, F. J., and Gannon, J. E. 1977. Large scale spatial distributions of rotifers in Lake Huron. In: Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (5)

Bricker, F. J., Stemberger, R. S., and Gannon, J. E. 1977. The vertical distribution of rotifers in southern Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Brinkhurst, R. O. 1967. The distribution of aquatic oligochaetes in Saginaw Bay, Lake Huron. Limnol. Oceanogr. 12:137-143. (1)

Site: Saginaw Bay
Topic: Discussion of the distribution of benthic olgochaetes and the relationship to environmental factors such as organic content, depth, etc.

Brinkhurst, R. O., Hamilton, A. L., and Herrington, H. B. 1968. Components of the bottom fauna of the St. Lawrence Great Lakes. Great Lakes Inst., Report No. PR33, Univ. Toronto. 50 pp. (1)

Site: Lakes Erie, Ontario, and Georgian Bay
Topic: Distribution of the benthic Sphaeridae, Chironomidae, and Oligochaeta in Great Lakes sediments (60 stations in Georgian Bay).

Brown, C. L. 1978. Phytoplankton density, composition, and cell volume in the nearshore waters of northwestern Lake Huron, p. 20. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Budd, J. C. 1957A. Introduction of the hybrid between the eastern brook trout and lake trout into the Great Lakes. Can. Fish Cult. 20:25-28. (2)

Site: South Bay, Lake Huron
Topic: Growth, migration, and spawning habits of the initially introduced hybrid.

Budd, J. C. 1957B. Movements of tagged whitefish in northern Lake Huron and Georgian Bay. Trans. Amer. Fish. Soc. 86:128-134. (2)

Site: Northern Lake Huron and Georgian Bay
Topic: Study of seasonal migratory habits of whitefish by tagging and recapturing.

Budd, J. C. 1960. Survival and growth of tagged lake trout in south bay, Lake Huron. Trans. Amer. Fish. Soc. 89:308-309. (2)

Site: South Bay
Topic: Report on the growth rate of planted lake trout and their survival mortality statistics in lieu of the sea lamprey.

Budd, J. C., and Cucin, D. 1962. Exploitation of Canadian Lake Huron whitefish. Trans. Amer. Fish. Soc. 91:223-224. (2)

Site: Canadian side of Lake Huron
Topic: Report on the fluctuations of whitefish production and spawning populations as a function of the fishery effort.

Budd, J. C., and Fry, F. E. J. 1960. Further observations on the survival of yearling lake trout planted in South Bay, Lake Huron. Can. Fish Cult. 26:7-14. (2)

Site: South Bay
Topic: Report on the growth rate of planted lake trout and their survival mortality statistics in lieu of the sea lamprey.

Budd, J. C., Smith, J. B., and Fry, F. E. J. 1963. Year-class variations in the whitefish of South Bay, Manitoulin Island. Typescript deposited in Univ. Toronto, Dept. Zoology Library. (2)

Budd, J. C., Fry, F. E. J., and Pearlstone, P. S. M. 1969. Final observations on the survival of planted lake trout in South Bay, Lake Huron. J. Fish. Res. Board Can. 26:2413-2424. (2)

Site: South Bay
Topic: Annual mortality rates of trout planted in South Bay, as a result of lamprey attacks, are estimated and age distribution of population determined.

Canada Centre for Inland Waters. 1972. Canada Centre for Inland Waters--1971. Environment Can. 87 pp. (5)

Site: Canadian Great Lakes
Topic: Progress and summary reports of recent and ongoing research. Includes: Zooplankton studies, chlorophyll *a*, atmospheric inputs (Dissolved oxygen, pH, conductivity, alkalinity, $NO_3^=$, P, $NH_3$, nitrate, dissolved $SiO_2$, turbidity), seismic reflection surveys, Mg in sediments, sediment mapping, sediment chemistry, and current measurements.

Canada Centre for Inland Waters. 1973. Canada Centre for Inland Waters--1972. Environment Can. 125 pp. (5)

Site: Canadian Great Lakes
Topic: Progress and summary reports, including nutrient chemistry.

Canada Centre for Inland Waters. 1975. Canada Centre for Inland Waters--1974. Environment Can. 138 pp. (1, 2, 5)

Site: Canadian Great Lakes
Topic: Progress and summary reports, including heavy metal inputs, temperature, light scattering, zooplankton, chlorophyll *a*, benthos, and fish.

Canale, R. P., Freedman, P. L., Auer, M. T., and Sygo, J. J. 1976. Saginaw Bay limnological data. Michigan Sea Grant Program, Tech. Report No. 54. 175 pp. (3)

Site: Saginaw Bay and its tributaries
Topic: Preparation of data tables pertinent to water quality. Parameters measured: $Cl^-$, total P, $NH_3$-N, $NO_3$-N, dissolved silica, total Fe, coliform bacteria, alkalinity, conductivity, dissolved oxygen, $NO_2$-N, total dissolved phosphate, PP, orthophosphate, pH, temperature, turbidity, suspended solids.

Carpenter, G. P., Mansey, I. and Nauwerck, A. 1972. The distribution and abundance of *Mysis relicta* (Loven) in Lakes Ontario, Erie, Huron, and Superior, p. 150. *In*: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Carpenter, G. P., Mansey, E. D., and Watson, N. H. F. 1974. Abundance and life history of *Mysis relicta* in the St. Lawrence Great Lakes. J. Fish. Res. Board Can. 31:319-325. (5)

Site: Lakes Ontario, Erie, Superior, Huron
Topic: Seasonal abundance, depth distribution, size frequency, population, distribution of *Mysis Relicta*.

Carr, J. A. 1962. Distribution and seasonal movements of Saginaw Bay fishes. U. S. Fish and Wildlife Serv., Spec. Sci. Report, Fisheries, No. 417. 13 pp. (2)

Site: Saginaw Bay
Topic: Study of seasonal abundance, habitat, and migratory behavior of the dominant species of fish from Saginaw Bay, collected with gill nets and trawls.

Carter, J. C. H. 1969. Life cycles of *Limnocalanus macrurus* and *Senecella calanoides* and seasonal abundance and vertical distributions of various planktonic copepods, in Parry Sound, Georgian Bay. J. Fish. Res. Board Can. 26:2543-2560. (5)

Site: Parry Sound
Topic: Life cycles and vertical distribution of *Limnocalanus* and *Senecella calanoides* as well as seasonal abundance and vertical distributions of other major zooplankton copepods in Georgian Bay.

Carter, J. C. H. 1972. Distribution and abundance of planktonic crustacea in Sturgeon Bay and Shawanaga Inlet, Georgian Bay, Ontario. J. Fish. Res. Board Can. 29:79-83. (5)

Site: Sturgeon Bay, Shawanaga Inlet, Georgian Bay
Topic: Seasonal abundances and effect of temperature and electrolyte concentrations on the vertical and horizontal distribution of 27 different species of planktonic crustaceans.

Carter, J. C. H., and Watson, N. H. F. 1977. Seasonal and horizontal distributions of planktonic crustacea in Georgian Bay and North Channel. J. Great Lakes Res. 3:113-122. (5)

Site: 36 stations in Georgian Bay and 10 stations in North Channel
Topic: Species composition and abundance of planktonic crustacea were determined and examined for temperature effects.

Chandler, D. C. 1964. The St. Lawrence Great Lakes. Verh. Internat. Verein. Limnol. 15:59-75. (1, 2, 4, 5)

Site: The Great Lakes area
Topic: Synopsis of Great Lakes characteristics.

Christie, W. J. 1974. Changes in the fish species composition of the Great Lakes. J. Fish. Res. Board Can. 31:827-854. (2)

Site: The Great Lakes
Topic: Documentation of changes in the fish species composition of the Great Lakes as a response to the sea lamprey invasion and overfishing. The reasons for the rise and fall of these species as well as their place of origin are reviewed.

Clemente, J., and Christenson, B. G. 1967. Results of a recent Salmonella survey of some Michigan waters flowing into Lake Huron and Lake Erie, pp. 1-11. In: Proc. 10th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

Site: Saginaw River and two rivers entering Lake Erie
Topic: The purpose of this study was to assess the bacteriological water quality of the above areas relative to Salmonella varieties.

Coble, D. W. 1967. Relationship of temperature to total annual growth on adult smallmouth bass. J. Fish. Res. Board Can. 24:87-99. (2)

Coble, D. W. 1967A. The white sucker population of South Bay, Lake Huron, and effects of the sea lamprey on it. J. Fish. Res. Board Can. 24:2117-2136. (2)

Site: South Bay
Topic: The effect of the sea lamprey on numbers, average size, and survival rate of the once large white-sucker population of South Bay are examined.

Colby, P. J., Spangler, G. R., Hurley, D. H., and McCombie, A. M. 1972. Effects of eutrophication on salmonid communities in oligotrophic lakes. J. Fish. Res. Board Can. 29:975-983. (2)

Collins, J. J. 1964. A preliminary report on experimental gillnetting in the North Channel of Lake Huron. Ont. Dept. Lands and Forests. 18 pp. (2)

Collins, J. J. 1971. Introduction of kokanee salmon (*Oncorhynchus nerka*) into Lake Huron. J. Fish. Res. Board Can. 28:1857-1871. (2)

Site: Lake Huron
Topic: Results of a planting program of kokanee salmon into Lake Huron; incidence of lamprey attacks, diet, species associations, spawning, etc.

Collins, J. J. 1975. Occurrence of pink salmon (*Oncorhynchus gorbuscha*) in Lake Huron. J. Fish. Res. Board Can. 32:402-404. (2)

Site: Carp River and Lake Huron
Topic: Report of an occurrence of pink salmon in Lake Huron which was originally introduced in Lake Superior.

Collins, J. J. 1979. Relative efficiency of multifilament and monofilament nylon gill nets toward lake whitefish (*Coregonus clupeaformis*) in Lake Huron. J. Fish. Res. [illegible]d Can. 36:1180-1185. (2)

Site: Lake Huron
Topic: Comparison of different types of gill nets as to their efficiency, size of catch, and stock differences. Further effects of the new monofilament nets on whitefish exploitation in Lake Huron.

Cook, D. G., and Johnson, M. G. 1974. Benthic macroinvertebrates of the St. Lawrence Great Lakes. J. Fish. Res. Board Can. 31:763-782. (1)

Site: Great Lakes
Topic: The distribution of benthic species within the Great Lakes is examined. Population dominants and trends in population composition as a result of anthropogenic influences are discussed.

Cooper, A. R. 1915. Contributions to the life history of *Proeocephalus ambloplitis leidy*, pp. 177-194. *In*: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper. No. 39B. (2)

Site: Georgian Bay
Topic: Description of growth stages and life history of *P. ambloplitis*, a parasite of the black bass.

Cooper, J. E. 1962. Seasonal changes with depth in population of *Pontoporia affinis* (Amphipoda) in South Bay, Lake Huron, p. 173. *In*: Proc. 5th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 9, Univ. Michigan. (1)

Cooper, J. E. 1964. Bottom fauna of South Bay, Lake Huron. MSC Thesis, Univ. Toronto. (1)

Craigie, D. E. 1971. The geographical distribution and spatial associations of fishes in Georgian Bay, 1958-1963. MSC Thesis, Univ. Toronto. (2)

Cucin, D., and Regier, H. A. 1966. Dynamics and exploitation of lake whitefish in southern Georgian Bay. J. Fish. Res. Board Can. 23: 221-274. (2)

Site: South Georgian Bay
Topic: Report on the fluctuations of the lake whitefish fishing industry as a result of intense fishing and mortality rates.

Davis, C. C. 1966. Plankton studies in the largest Great Lakes of the world, pp. 1-36. *In*: Great Lakes Res. Div., Publ. No. 14, Univ. Michigan. (4, 5)

Site: Great Lakes
Topic: Survey of plankton investigations on Great Lakes up to 1966 and comparison to other large lakes in the world. Both phytoplankton and zooplankton synopses for each of the Great Lakes are presented.

Davis, C. C., and Schelske, C. L. 1976. Nutrient and phytoplankton distributions in the Michigan and Ontario nearshore waters of Lake Huron during thermal bar conditions, p. 3. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Dechtiar, A. O. 1973. New and previously described species of the genus *Lyrodiscus* (*Mongenoidea*: *Ancyrocephalinae*) from fishes of the Great Lakes. J. Fish. Res. Board Can. 30:1155-1160. (2)

Site: Lakes Erie, Ontario, and Huron
Topic: Description and report on 5 species of Lyrodiscus, a fish parasite.

DiToro, D. M., and Matystik, W. F. 1976. Phytoplankton biomass model of Lake Huron and Saginaw Bay, p. 5. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Dodge, D. P. 1967. Some biology and vital statistics of the rainbow trout *Salmo gairdneri* Richardson, of Bothwell's Creek, Lake Huron. MSC Thesis, Dept. Zool., Univ. Guelph. 125 pp. (2)

Dodge, D. P., and Maccrimmon, H. R. 1970. Vital statistics of a population of Great Lakes rainbow trout (*Salmo gairdneri*) characterized by an extended spawning season. J. Fish. Res. Board Can. 27:613-618. (2)

Site: Bothwell's Creek
Topic: Details on the migratory behavior, number of fish, and length of spawning season of Great Lakes rainbow trout.

Dolan, D. M., Bierman, V. J., Jr., Dipert, M. H., and Geist, R. D. 1977. Statistical analysis of the spatial and temporal variability of the ratio chlorophyll *a* to phytoplankton cell volume in Saginaw Bay, Lake Huron. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Dolan, D. M., Bierman, V. J., Jr., Dipert, M. H., and Geist, R. D. 1978. Statistical analysis of the spatial and temporal variability of the ratio chlorophyll a to phytoplankton cell volume in Saginaw Bay, Lake Huron. J. Great Lakes Res. 4:75-83. (4)

Site: Saginaw Bay near the mouth of Saginaw River
Topic: The paper compares chlorophyll a and cell volume as estimations of phytoplankton biomass. Results indicated that cell volume is a more accurate measure of the plankton population.

East Central Michigan Planning and Development Region. 1977. Areawide waste treatment management plan, app. 7, 8. Water Quality Inventory and Environmental/Water Quality Relationships, Prel. Draft. (1, 2, 4)

Site: Michigan Rivers
Topic: Characterization of each river including sources of pollution.

El-Zarka, S. E. 1959. Fluctuations in the population of yellow perch, Perca flavescens (Mitchill), in Saginaw Bay, Lake Huron. U. S. Fish and Wildl. Serv., Fish. Bull. 59-365-415. (2)

Site: Saginaw Bay
Topic: Investigation into the possible causes of a declining perch population in Saginaw Bay.

Emery, A. R. 1970. Fish and crayfish mortalities due to an internal seiche in Georgian Bay, Lake Huron. J. Fish. Res. Board Can. 27:1165-1168. (1, 2)

Site: Western Georgian Bay
Topic: Report of fish and benthos mortalities brought about as a result of sudden decreases in temperature and transparency due to an internal seiche.

Environmental Protection Bureau. 1977. Flint River Study, August 6-7, 1974. Mich. Dept. Nat. Resources. 118 p. (1, 2, 3, 4)

Site: Flint River Basin
Topic: An intense 24-hr survey of water quality designed to assess pollution sources and effects and provide data for comparison to earlier studies. Includes sediment chemistry, fish, phytoplankton, benthos, bacteria, BOD, nitrate, ammonia, and total phosphorus.

Faber, D. J. 1965. A preliminary report on ecological studies of larval fish in South Bay, p. 211. (Abstr.) In: Proc. 8th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 13, Univ. Michigan. (2)

Faber, D. J. 1970. Ecological observations on newly hatched lake whitefish in South Bay, Lake Huron, pp. 481-500. In: Lindsay, C. C. (ed.), Biology of Corregonid Fishes, Univ. Manitoba Press, Winnepeg. (2)

Fenwick, M. G. 1962. Some interesting algae from Lake Huron. Trans. Amer. Microscop. Soc. 81:72-76. (4)

Site: Lake Huron
Topic: The examination of plankton samples from Lake Huron with special reference to certain selected genera.

Fenwick, M. G. 1968. Lake Huron distribution of *Tabellaria fenestra* var. *beniculata a. cleve* and *Coelastrum reticulatum* var. *polychordon korshik*. Trans. Amer. Microscop. Soc. 87:376-383. (4)

Site: Lake Huron
Topic: Discussion of the distribution of two algae previously unknown to North America.

Ferguson, R. G., and Dickson, A. J. 1971. Migrations of adult and juvenile walleyes (*Stizostedion vitreum vitreum*) in southern Lake Huron, Lake St. Clair, and Lake Erie and connecting channels. J. Fish. Res. Board Can. 28:1133-1142. (2)

Frank, R., Armstrong, A. E., Boelens, R. G., Braun, H. E., and Douglas, C. W. 1974. Organochlorine insecticide residues in sediment and fish tissues, Ontario, Canada. Pest. Monitor. J. 7:165-180. (2)

Site: Four areas in Ontario, one of which drains into Georgian Bay (Muskoka Lakes)
Topic: Determination of organochlorine insecticide levels in sediment and fish from four areas in Ontario. Comparison of the four areas and relationship of levels in fish to feeding habits are discussed.

Frank, R., Holdrinet, M., Braun, H. E., Dodge, D. P., and Spangler, G. E. 1978. Residues of organochlorine insecticides and polychlorinated biphenyls in fish from Lakes Huron and Superior, Canada, 1968-1976. Pest. Monitor. J. 12:60-68. (2)

Site: Lakes Huron and Superior
Topic: Five species of fish from Superior and twelve from Huron were analyzed for organochlorine insecticides and PCBs. Study describes changes in concentration of these during 1968-1976.

Fraser, J. M. 1955. The smallmouth bass fishery of South Bay, Lake Huron. J. Fish. Res. Board Can. 12:147-177. (2)

Site: South Bay
Topic: Description of the smallmouth bass population; its distribution, size, yield, and migratory habits are discussed.

Freedman, P. L. 1974. Saginaw Bay: An evaluation of existing and historical conditions. USEPA Report No. EPA-905/9-74-003. 137 pp. (1, 2, 4)

Site: Saginaw Bay
Topic: Analysis of biological, physical, and chemical parameters in Saginaw Bay to determine its current and future state, and current trends in water quality. Sources of inputs, major ion chemistry, benthos, phytoplankton, fish, and nutrients are examined.

Fry, F. E. J. 1952. The 1944 year class of lake trout in South Bay, Lake Huron. Trans. Amer. Fish. Soc. 82:178-192. (2)

Site: South Bay
Topic: History of the 1944 class of lake trout traced through the years, noting tolls from fishing and sea lamprey.

Fry, F. E. J. 1958. The survival of yearling lake trout planted in South Bay, Lake Huron. Can. Fish. Cult. 23:1-9. (2)

Fry, F. E. J. 1964. Changes in age composition in the smelt *Osmerus mordax* in South Bay, Lake Huron, p. 141. *In*: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (2)

Fry, F. E. J., and Budd, J. C. 1953. Preliminary reconnaissance of the waters of Georgian Bay. *In*: Abstracts 16th Annual Meeting Amer. Soc. Limnol. Oceanog. (2)

Fry, F. E. J., and Budd, J. C. 1958. The survival of yearling lake trout planted in South Bay, Lake Huron. Can. Fish Cult. 23:13-20. (2)

Site: South Bay
Topic: Study of the survival rate and growth of planted lake trout, and assessment of the damage done by the sea lamprey on this population.

Fry, F. E. J., and Watt, K. E. R. 1955. Yields of smallmouth bass hatched in the decade of 1940 in Manitoulin Island waters. Trans. Amer. Fish. Soc. 85:135-143. (2)

Site: South Bay, Lake Huron
Topic: Investigation of smallmouth bass production in the 1940s. Comparisons are made with neighboring waters, and fluctuations in year class strength are correlated with monthly deviations of air temperature from the mean temperature.

Gannon, J. E., Bricker, K. S., and Ladewski, T. B. 1976. Crustacean zooplankton in the Straits of Mackinac, p. 24. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Gledhill, J. R. 1978. Initial report of the Dow Chemical Company on chlorinated dioxins, PCB, and PBB in fish taken from the Tittabawassee River. Appendix A, Preliminary Report, Dow Chemical Company, Midland, Michigan, Letter to John Hesse, Mich. Dept. Nat. Resources. 16 pp. (2)

Glooschenko, W. A., and Moore, J. E. 1972. *In situ* enrichment studies upon Lake Huron phytoplankton communities. *In:* Abstracts for Special Meeting of the Amer. Soc. Limnol. Oceanogr. Inc. (4)

Glooschenko, W. A., Moore, J. E., and Vollenweider, R. A. 1973A. Chlorophyll *a* distribution in Lake Huron and its relationship to primary productivity, pp. 40-49. *In:* Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (4)

Site: Lake Huron, North Channel, and Georgian Bay
Topic: Measurement of temperature, Chlorophyll *a*, and assimilation rates.

Glooschenko, W. A., Moore, J. E., and Vollenweider, R. A. 1973B. Distribution of surface chlorophyll, primary production, and assimilation number in the Great Lakes--a comparative study. *In:* Abstracts 36th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (4)

Glooschenko, W. A., and Moore, J. E. 1973B. Surface distribution of chlorophyll and primary production in Lake Huron. Fish. Res. Board Can. Tech. Rept. No. 406. (4)

Site: Nine stations in Lake Huron, two in the North Channel, five in Georgian Bay, and seventeen in Lake Superior.
Topic: Analyses of water, seston, and sediment for PCBs and fifteen organochlorine pesticides and seventeen organophosphorus residues. Comparison of results to health standards and with one another are made. Lake Huron and Georgian Bay have higher DDT in sediments, and Lake Superior has higher PCBs in sediments. Physical characteristics of sediments were determined and correlated to chemical data.

Goad, L. S., Stoermer, E. F., and Ladewski, B. G. 1977. Morphometric determination of cell volume components in eight phytoplankton species. *In:* Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (4)

Goodrich, C., and Van Der Schalie, H. 1932. I. On an increase in the *Naiad* fauna of Saginaw Bay, Michigan. II. The *Naiad* species of the Great Lakes. Museum Zool., Occasional Papers, No. 238, Univ. Michigan. 14 pp. (1)

Site: Saginaw Bay
Topic: A comparison of numbers and types of *Naiad* in Saginaw Bay to historical data for the Great Lakes.

Gordon, W. G. 1961. Food of the American smelt in Saginaw Bay, Lake Huron. Trans. Amer. Fish. Soc. 90:439-443. (2)

Site: Saginaw Bay
Topic: Summary of the feeding habits of the American smelt in lieu of their extremely rapid spread and increase in numbers in the four upper Great Lakes.

Graham, J. M., Auer, M. T., and Canale, R. P. 1981. Factors regulating the growth and distribution of *Cladophora glomerata*, p. 48. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Great Lakes Basin Commission. 1976A. Environmental impact statement. Great Lakes Basin Framework Study. 152 pp. (2)

Site: Great Lakes basin -- U. S. shoreline
Topic: Assessment of the current state of the Great Lakes, types of resource development that are best, and those regions which currently have problems.

Great Lakes Basin Commission. 1976B. Limnology of lakes and embayments. Great Lakes Basin Framework Study, app. 4. 441 pp. (1, 2, 3, 4, 5)

Site: Great Lakes basin -- U. S. shoreline
Topic: A summary of bedrock geometry, river inputs, meteorology, water motion, water chemistry, flushing times, bacteria, fungi, zooplankton, phytoplankton, benthos, fish, sediment chemistry, and sedimentology.

Great Lakes Basin Commission. 1976C. Water Quality. Great Lakes Basin Framework Study, app. 7. 228 pp. (3, 4)

Site: Great Lakes basin -- U. S. shoreline
Topic: Discussion of problem areas of water quality, current water quality, water quality trends, and future plans to improve water quality.

Great Lakes Basin Commission. 1976D. Fish. Great Lakes Basin Framework Study, App. 8. 290 pp. (2)

Site: Great Lakes basin -- U. S. shoreline
Topic: Past, present, and future demands on fish.

Great Lakes Institute. 1964A. Great Lakes Institute Data Record-- 1962 Surveys. Part II. Lake Huron, Georgian Bay and Lake Superior. Preliminary Report No. 17, Univ. Toronto. 104 pp. (3)

Site: Lake Huron, Lake Superior, and Georgian Bay
Topic: Data compilation for 1962.

Great Lakes Institute. 1964B. Douglas Point Project Annual Report 1964. Preliminary Report No. 20 (Restricted*), Univ. Toronto. 34 pp. (2)

Site: Douglas Point, eastern Lake Huron
Topic: Annual Report of progress on the Douglas Point project. The project has two major areas of study: diffusion and fish.

Great Lakes Institute. 1965. Great Lakes Institute Data Record--1963 Surveys. Part II. Lake Huron, Georgian Bay and Lake Superior. Preliminary Report No. 24, Univ. Toronto. 104 pp. (3)

Site: Lake Huron, Lake Superior, and Georgian Bay
Topic: Data compilation for 1963.

Greeley, J. R. 1933. The growth rate of rainbow trout from some Michigan waters. Trans. Amer. Fish. Soc. 63:361-378. (2)

Site: Michigan streams
Topic: Study of the age distribution of trout populations in Michigan streams using scales.

Hall, A. E., Jr., and Elliott, D. R. 1954. Relationship of length of fish to incidence of sea lamprey scars on white suckers, *Catostomus commersoni*, in Lake Huron. Copeia 1954:73-74. (2)

Site: Lake Huron
Topic: The frequency of lamprey attacks relative to the size of white suckers.

Hallam, J. C. 1959. Habitat and associated fauna of four species of fish in Ontario streams. J. Fish. Res. Board Can. 16:147-173. (1, 2)

Site: Ontario drainage basins
Topic: Discussion of the occurrence of four species of fish in Ontario streams and the benthic fauna commonly associated with them.

Hallet, D. J., Norstrom, R. J., Onuska, F. I., and Comba, M. E. 1980. Analysis of TCDDs (tetrachlorodi benzodioxins) in Great Lakes herring gulls, p. 48. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Hare, L., and Carter, J. C. H. 1976A. *Diacyclops nanus* (*Cyclopoida*: *Copepoda*), a new record from the Saint Lawrence Great Lakes. J. Great Lakes Res. 2:294-295. (5)

Site: Parry Sound, Georgian Bay
Topic: A copepod specie previously unknown in the Great Lakes.

Hare, L., and Carter, J. C. H. 1976B. The *Oligochaeta*, *Polychaeta* and *Nemertea* of Parry Sound, Georgian Bay, p. 68. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Hare, L. and Carter, J. C. H. 1977. The *Oligochaeta*, *Polychaeta* and *Nemertea* of Parry Sound, Georgian Bay. J. Great Lakes Res. 3:184-190. (1)

Site: Parry Sound (S.E. side of Georgian Bay)
Topic: Density of Oligochaetes, Polychaetes, and Nemerteans are presented, and the dependence of the population on substrate type is discussed.

Heard, W. L. 1962. The *sphaeridae* (*Mollusca*:*pelecypoda*) of the North American Great Lakes. Amer. Midland Nat. 67:194-198. (1)

Site: Great Lakes
Topic: Compilation of relative abundance and occurrence of *sphaeridae*.

Henderson, C., Inglis, A., and Johnson, W. L. 1971. Organochlorine insecticide residues in fish, fall 1969. National Pesticide Monitoring Program. Pest. Monitor. J. 5:1-11. (2)

Site: Continental United States
Topic: A continuing study of the occurrences of eleven different organochlorine insecticides in freshwater fish of the United States.

Henderson, C., Inglis, A., and Johnson, W. L. 1972. Mercury residues in fish, 1969-1970. National Pesticide Monitoring Program. Pest. Monitor. J. 6:144-159. (2)

Site: Continental United States
Topic: Occurrence of methyl-mercury and total mercury in freshwater fish.

Henderson, C., Johnson, W. L., and Inglis, A. 1969. Organochlorine insecticide residues in fish. National Pesticide Monitoring Program. Pest. Monitor. J. 3:145-171. (2)

Site: Continental United States
Topic: Collection of fish from 50 stations throughout the United States and their analysis for 11 different organochlorine insecticides.

Henson, E. B. 1962. Notes on the distribution of the benthos in the Straits of Mackinac region, p. 174. *In*: Proc. 5th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 9, Univ. Michigan. (1)

Henson, E. B. 1966. A review of Great Lakes benthos research, pp. 37-54. *In*: Great Lakes Res. Div., Publ. No. 14, Univ. Michigan. (1)

Site: Great Lakes
Topic: A review of Great Lakes benthos studies in terms of environmental implications is presented.

Henson, E. B. 1970A. *Pontoporeia affinis* (Crustacea, Amphipoda) in Straits of Mackinac region, p. 72. *In*: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Henson, E. B. 1970B. Pontoporeia affinis (Crustacea, Amphipoda) in the Straits of Mackinac region, pp. 601-610. In: Proc. 13th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Straits of Mackinac
Topic: Interrelationship between population density and substrate for Pontoporeia affinis.

Henson, E. B., and Herrington, H. B. 1965. Sphaeridae (Mollusca:Pelecypoda) of Lakes Huron and Michigan in the vicinity of the Straits of Mackinac, pp. 77-95. In: Proc. 8th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 13, Univ. Michigan. (1)

Site: Straits of Mackinac
Topic: Distribution of each of 25 Sphaeriidae species found with respect to sediment type and depth.

Herbst, R. P. 1969. Ecological factors and the distribution of Cladophora glomerata in the Great Lakes. Amer. Midland Nat. 82:90-98. (4)

Site: Great Lakes
Topic: The relationship of nutrient conditions and environmental factors to the growth and spread of Cladophora along the Great Lakes shoreline.

Herzog, N. D., and Kinkead, J. D. 1976. Mercury in fish and sediments of Lake Superior and Lake Huron, p. 61. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Hile, R. 1936. The increase in the abundance of the yellow pike-perch, Stizostedion vitreum (mitchill) in Lakes Huron and Michigan, in relation to the artificial propagation of the species. Trans. Amer. Fish. Soc. 66:143-159. (2)

Site: Lakes Michigan and Huron
Topic: A comparison of artificial propagation of a species to natural reproduction in maintaining the yellow pike-perch population.

Hile, R. 1946. Trends in the lake trout fishery of Lake Huron through 1946. Trans. Amer. Fish. Soc. 76:121-147. (2)

Site: Lake Huron
Topic: Discussion of current and historical trends in trout fishing and trout populations.

Hile, R. 1954. Fluctuations in growth and year-class strength of the walleye in Saginaw Bay. U. S. Fish and Wildl. Serv., Fish. Bull. 56:7-59. (2)

Site: Saginaw Bay
Topic: Age, growth, sex ratio, length, weight, and maturity of walleye are used to describe its life history.

Hile, R., and Buettner, H. J. 1959. Fluctuations in the commercial fisheries of Saginaw Bay 1885-1956. U. S. Fish and Wildl. Serv., Res. Report No. 51. 38 pp. (2)

Site: Saginaw Bay
Topic: Fluctuations in the Saginaw Bay fishing industry for each of the eight most important commercial fishes are related to abundance, overfishing, fishing intensity, and predation.

Hile, R., and Jobes, F. W. 1940. Age, growth, and production of the yellow perch, Perca flavescens (mitchill) of Saginaw Bay. Trans. Amer. Fish. Soc. 70:102-122. (2)

Site: Saginaw Bay
Topic: Age, abundance, size, and trends of the Great Lakes trout population.

Hubbs, C. L., and Lagler, K. F. 1958. Fishes of the Great Lakes region. Univ. Michigan Press, Ann Arbor, Michigan. 213 pp. (2)

Site: Great Lakes basin
Topic: Identification, description, environment, distribution, and range of fishes found in the Great Lakes and their tributaries.

Huntsman, A. G. 1915. The fresh-water Malacostraca of Ontario, pp. 145-163. In: Contrib. Can. Biol., Fasc. II. Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (1)

Site: Canadian Great Lakes region
Topic: Description of occurrence, habits, predator-prey relationships, and physical appearance of decapods, amphipods, and isopods of the Canadian Great Lakes region.

Hutchinson, T. C., and Fitchko, J. 1977. The heavy metal uptake from sediments and water by aquatic macrophytes. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

International Joint Commission. 1951. Pollution of boundary waters. Washington and Ottawa. 312 pp. (3)

Site: Lakes Superior, Huron, Erie, Ontario, and St. Clair and the St. Mary's, St. Clair, and Niagara Rivers
Topic: Investigation of the various pollution problems affecting the Great Lakes and their connecting waterways.

International Joint Commission. 1974A. Great Lakes Water Quality--1973. Annual Report. Great Lakes Water Quality Board. 105 pp. (2)

Site: Great Lakes
Topic: Assessment of baseline water quality conditions for the Great Lakes. Comparison of data with those of 1971.

International Joint Commission. 1974B. Study of pollution problems of Lake Huron and Lake Superior. International Reference Group on Upper Lakes Pollution. 211 pp. (1, 2, 3, 4, 5)

Site: Lakes Huron and Superior
Topic: Proposed study of the upper Great Lakes.

International Joint Commission. 1976A. Great Lakes water quality 1976, Appendix A. Water Quality Objectives Subcommittee Report, Great Lakes Water Quality Board. 123 pp. (2)

Site: Great Lakes
Topic: Toxicity of trace metals to fish and water quality standards are discussed.

International Joint Commission. 1976B. The waters of Lake Huron and Lake Superior, Vol. I. Summary and Recommendations. Upper Lakes Reference Group. 236 pp. (1, 2, 3, 4, 5)

Site: Lakes Huron and Superior
Topic: Introduction to a detailed study of the water quality of Lakes Superior and Huron and general characteristics of the lakes, including: circulation, water transparency, sediment, geochemistry, nutrient chemistry, water chemistry, phytoplankton, zooplankton, bacteria, and fish.

International Joint Commission. 1977. The waters of Lake Huron and Lake Superior, Vol. II. Lake Huron, Georgian Bay, and the North Channel. Upper Lakes Reference Group. 743 pp. (1, 2, 3, 4, 5)

Site: Lake Huron
Topic: Complete, detailed description of physical, chemical, and biological characteristics.

International Joint Commission. 1978. Great Lakes Water Quality--1977 Annual Report, Appendix E. Status report on organic and heavy metal contaminants in the Lakes Erie, Michigan, Huron, and Superior basins. Great Lakes Water Quality Board. 373 pp. (1, 2, 4, 5)

Site: Lakes Erie, Michigan, Huron, and Superior
Topic: The distribution and accumulation in organisms and sediments of toxic metals and organics.

International Joint Commission. 1979A. Great Lakes Water Quality--1978 Annual Report. Great Lakes Water Quality Board. 118 pp. (2)

Site: Great Lakes
Topic: Identification of problem areas on the Great Lakes (eight on Lake Huron), in terms of radioactive substances, atmospheric input, and toxins. Discussed in relation to the Great Lakes as a whole.

International Joint Commission. 1979B. Inventory of major municipal and industrial point source discharges in the Great Lakes Basin. Great Lakes Water Quality Board. (3)

Site: Great Lakes basin
Topic: Listing of pollution sources to Great Lakes or its tributaries.

Jensen, A. L. 1976. Assessment of the United States lake whitefish (*Coregonus clupeaformis*) fisheries of Lake Superior, Lake Michigan, and Lake Huron. J. Fish. Res. Board Can. 33:747-759. (2)

Site: Lakes Superior, Michigan, and Huron
Topic: Assessment of the whitefish fisheries production on the basis of overfishing and predation by the sea lamprey.

Johnson, B. G. H. 1963. Bio-assays of rivers tributary to the Canadian side of Lakes Superior and Huron with selective lampricides, 1958-1959. Fish. Res. Board Can., Manuscript Report Ser., No. 723. 45 pp. (2)

Site: Lakes Superior and Huron
Topic: Results of 55 bio-assays using substances toxic to lampreys.

Jordan, D. S., and Evermann, B. W. 1909. A review of the salmonid fishes of the Great Lakes, with notes on the whitefishes of other regions. Bull. U. S. Bureau Fish. 29:1-41. (2)

Site: Great Lakes region and other regions of United States and Canada
Topic: Description, abundance, habitat, and palatability of the salmonid group of fishes found in the Great Lakes.

Kaiser, K. L. E. 1980. Organochlorine contaminants in sea lamprey (*Petromyzon marinus*) from the Great Lakes and Cayuga Lake, p. 47. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Kelso, J. R. M., and Leslie, J. K. 1979. Entrainment of larval fish by the Douglas Point generating station, Lake Huron, in relation to seasonal succession and distribution. J. Fish. Res. Board Can. 36:37-41. (2)

Site: Douglas Point
Topic: The relationship of entrainment to seasonal succession, abundance, and distribution of larval fishes.

Kenaga, D. E., and Creal, W. S. 1981. Concentrations of selected contaminants in fish from Lakes Superior and Huron 1974 to 1978, p. 23. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Klugh, A. B. 1915. Notes on the aquatic plants of Georgian Bay, pp. 219-220. *In*: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (4)

Site: Georgian Bay nearshore
Topic: Pteriopophyta and spermatophyta environments of occurrence in Georgian Bay.

Koelz, W. 1929. Coregonid fishes of the Great Lakes. Bull. U. S. Bureau Fish. 43:297-643. (2)

Site: Great Lakes
Topic: Description, abundance, habitat, origin, and variation of Coregonids (whitefish) of the Great Lakes.

Korstad, J. E. 1980. Nutrient regeneration by zooplankton in southern Lake Huron. *In*: Abstracts 2nd Winter Meeting, Amer. Soc. Limnol. Oceanogr. (5)

Kreis, R. G., Jr., and Stoermer, E. F. 1979. Diatoms of the Laurentian Great Lakes III. Rare and poorly known species of *Achnanthes* *bory* and *Cocconeis* *ehr*. (Baciliariophyta), p. 24. *In*: 22nd Conf. Great Lakes. Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Kreis, R. G., Jr., and Stoermer, E. F. 1981. Tracing Lake Superior water in northern Lake Huron using periphyton from the St. Mary's River, p. 37. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Krezoski, J. R., and Mozley, S. C. 1976. Mixing processes and macrobenthos in sediments of large lakes: correlations of vertical distribution in Lake Huron. *In*: Abstracts 39th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (1)

Krezoski, J. R., and Robbins, J. A. 1977. Radioactivity in sediments of the Great Lakes: post depositional redistribution by deposit-feeding organisms. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Krezoski, J. R., Mozley, S. C., and Robbins, J. A. 1978. Influence of benthic macroinvertebrates on mixing of profundal sediments in southeastern Lake Huron. Limnol. Oceanogr. 23:1011-1016. (1)

Site: Two stations in southern Lake Huron
Topic: Sedimentation rates, tubifex defecation rates, and benthic density were used to determine the depth of bioturbation in 12 cores.

Limno-Tech, Inc. 1977. Cass River water quality model. Report prepared for: The Chester Engineers and East Central Michigan Planning and Development Region. 78 pp. (1)

Site: Cass River
Topic: Water quality and waste discharge data for the Cass River are used to develop a one-dimensional model for predicting dissolved oxygen, nitrogen oxygen demand, and carbon oxygen demand. The model is then used to predict future trends.

Limno-Tech, Inc. 1978. Projections of critical water quality conditions in Saginaw River and Bay. Prepared for: The Chester Engineers and the East Central Michigan Planning and Development Region. 100 pp. (3, 4)

Site: Saginaw River and Saginaw Bay
Topic: Mathematical model of Saginaw River and Saginaw Bay which incorporates three models: one for seasonal dynamics of nutrients, productivity, turbidity, and sediment characteristics; a second for predicting dissolved oxygen; and a third for predicting the response of dissolved oxygen and coliform bacteria to sewage overflows. The models are used to predict future water quality conditions.

Lin, C. K., and Schelske, C. L. 1977. Seasonal variations of nutrient limitation to phytoplankton growth in southern Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Lin, C. K., and Schelske, C. L. 1978. Effects of nutrient enrichment, light intensity, and temperature on growth of phytoplankton from Lake Huron. USEPA Report No. EPA-600/3-79-049. 64 pp. (4)

Site: Southern Lake Huron
Topic: A set of experiments is used on natural phytoplankton assemblages from Lake Huron to determine the limiting nutrient(s) of different phytoplankton species present. In addition to this, the effects of light and temperature are also explored.

Lin, C. K., Schelske, C. L., and Feldt, L. E. 1977. Responses of winter phytoplankton populations from Lake Huron to nutrient enrichment under varying light and temperature regimes. In: Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (4)

Lukasiewicz, J. 1978. Eunapius fragilis (Porifera:spongillidae)--a report of freshwater sponges in Lake Huron. J. Great Lakes Res. 4:103. (1)

Site: Hammond Bay, Lake Huron
Topic: Acknowledgment of a previously unrecognized member of Great Lakes benthos, Eunapius fragilis, a freshwater sponge.

MacClement, W. T. 1915. Preliminary report on the plants of Georgian Bay, pp. 201-211. In: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (4)

Site: Georgian Bay
Topic: Habit, abundance, diversity, and consumer relationships of the phytoplankton and littoral hydrophytes of Georgian Bay.

MacCrimmon, H. R., and Gots, B. L. 1972. Rainbow trout in the Great Lakes. Sport Fishery Branch, Ont. Min. Nat. Res. (2)

Manion, P. J., and Purvis, H. A. 1971. Giant American brook lampreys, Lampetra lamottei, in the upper Great Lakes. J. Fish. Res. Board Can. 28:616-620. (2)

Site: Lakes Michigan and Huron
Topic: Report of the discovery of five abnormally large lampreys. The specie, normally believed non-parasitic, appears parasitic.

McCombie, A. M. 1961. Gill-net selectivity of lake whitefish from Goderich-Bayfield area, Lake Huron. Trans. Amer. Fish. Soc. 90:337-340. (2)

Site: Goderich basin of Lake Huron
Topic: Application of data from gillnet fishing to evaluate the most beneficial mesh size with which to fish in order to maintain a fishery population.

McCombie, A. M., and Fry, F. E. J. 1960. Selectivity of gill nets for lake whitefish, Coregonus clupeaformis. Trans. Amer. Fish. Soc. 89:176-184. (2)

Site: South Bay
Topic: Gillnet mesh size is compared to number and girth of fish caught to assess selectivity of different mesh sizes. In addition, relative efficiency of cotton and nylon nets is discussed.

McDunnough, J. 1933. Notes on the Heptagenine species described by Clemens from the Georgian Bay Region, Ont. (Ephemerop.) Can. Entomol. 65:16-24. (1)

Site: Georgian Bay region
Topic: Description of adult (flying insect) and nymph (benthic stream) forms of Heptagenine insect group.

McKim, J. M. 1962. The inshore benthos of Michigan waters of southwestern Lake Huron. Master Sci. Thesis, Univ. Michigan. 69 pp. (1)

Site: Southwestern shore of Huron, north of Saginaw Bay, and Saginaw Bay
Topic: Benthos from the shoreline to the three-foot depth contour are enumerated to species.

McLain, A. L. 1951. Diseases and parasites of the sea lamprey, *Petromyzon marinus*, in the Lake Huron basin. Trans. Amer. Fish. Soc. 81:94-100. (2)

Site: Lake Huron basin
Topic: A study of common parasites and diseases of the sea lamprey.

McNaught, D. C. 1976. Spatial scales of zooplankton biomass in Lake Huron. *In*: Abstracts 39th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (5)

McNaught, D. C. 1978. Spatial heterogeneity and niche differentiation in zooplankton of Lake Huron. Verh. Internat. Verein. Limnol. 20:341-346. (5)

Site: Lake Huron
Topic: *Holopedium gibberum* and *Diaptomus minutus*, two zooplankton common to Lake Huron, differ in their feeding habits. The study focuses on competition, morphology, feeding, and behavior.

McNaught, D. C., and Zeh, R. 1980. Assessment of the multi-frequency sonar for sampling zooplankton. *In*: Abstracts 2nd Winter Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (5)

McNaught, D. C., Griesmer, D. A., and Kennedy, M. 1978. Acute effects of PCB's on fluxes of carbon in the Lake Huron ecosystem, p. 99. *In*: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 5)

McNaught, D. C., Kennedy, M., Griesmer, D., and Buzzard, M. 1979. Acute inhibition of natural phytoplankton populations at environmental concentrations of PCB's, p. 46. *In*: 22nd Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Merckel, C. N., Bergantz, J. M., and Burton, J. R. 1980. Residual effects of dredge material deposition on benthic macroinvertebrates, p. 58. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Michigan Water Resources Commission. 1963. Water Quality Records--1963. State of Michigan. 69 pp. (3)

Site: Rivers of Michigan
Topic: Monitoring of coliform bacteria and other water quality parameters in selected rivers in Michigan.

Michigan Water Resources Commission. 1964. Water Quality Records--1964. State of Michigan. (3)

Site: Rivers of Michigan
Topic: Monitoring of coliform bacteria and other water quality parameters in selected rivers in Michigan.

Michigan Water Resources Commission. 1970. A survey of background water quality in Michigan streams. Mich. Dept. Nat. Resources. 47 pp. (3)

Site: Upstream areas of the major streams in Michigan
Topic: Measurement of water quality parameters and coliform bacteria at 154 stations.

Miller, R. R. 1956. Origin and dispersal of the alewife, *Alosa pseudoharengus*, and the gizzard shad, *Dorosoma cepedianum*, in the Great Lakes. Trans. Amer. Fish. Soc. 86:97-111. (2)

Site: Great Lakes
Topic: Origin, dispersal, and increase in alewife and gizzard shad numbers.

Miller, T. J., Jude, D. J., and Eshenroder, R. 1980. The use and construction of small-mesh trap nets. Michigan Sea Grant, MICHU-SG-80-516. 16 pp. (2)

Site: Lake Huron
Topic: Use of trap nets for fishing round whitefish, lake whitefish, and yellow perch. Other species are also reported.

Minns, C. K., Kelso, J. R. M., and Hyatt, W. 1978. Spatial distribution of nearshore fish in the vicinity of two thermal generating stations, Nanticoke and Douglas Point, on the Great Lakes. J. Fish. Res. Board Can. 35:885-892. (2)

Site: Lakes Erie and Huron
Topic: Variety, numbers, distribution, and seasonal variations of fish populations in the vicinity of two sources of thermal pollution.

Modlin, R. F., and Gannon, J. E. 1972. Aquatic *Acari* in the Great Lakes, p. 151. *In*: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Moll, R. A. 1977. Phytoplankton productivity and standing crop in the Lake Huron-Saginaw Bay mixing zone. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Moore, H. H., Dahl, F. H., and Lamsa, A. K. 1974. Movement and recapture of parasitic-phase sea lampreys (*Petromyzon marinus*) tagged in the St. Marys River and Lakes Huron and Michigan, 1963-1967. Great Lakes Fish. Comm., Tech. Report No. 27. 19 pp. (2)

Site: Lake Huron, St. Mary's River, northern Lake Michigan, southern Lake Superior, and Georgian Bay
Topic: Release and capture of tagged sea lampreys to characterize their migratory habits.

Morman, R. H. 1979. Distribution and ecology of lampreys in the lower peninsula of Michigan, 1957-1975. Great Lakes Fish. Comm., Tech. Report No. 33. 59 pp. (2)

Site: Rivers of lower Michigan
Topic: Characterization of the six most abundant species of lamprey in Michigan streams; their distribution, reproduction, and resistance to environmental stresses are discussed.

Mozley, S. C., and Alley, W. P. 1974. Depth distribution and standing crop comparisons of benthic macroinvertebrates in Lakes Michigan, Huron and Erie, p. 115. *In*: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Munawar, M., Culp, L. R., and Dupuis, G. 1976. Carbon-14 primary production experiments by size fractionation in the St. Lawrence Great Lakes, p. 2. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Munawar, M., and Munawar, I. F. 1981. Phycological studies in the North Channel, p. 14. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Munawar, M., Munawar, I. F., and Culp, L. R. 1977. The Georgian Bay phytoplankton--a lakewide taxonomic, size and primary production study. *In*: 20th conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Neil, J. H. 1975. *Cladophora* in the Great Lakes. International Joint Commission, Great Lakes Research Advisory Board. 167 pp. (4)

Site: Great Lakes
Topic: Distribution and elemental composition of *Cladophora* in the Great Lakes are examined.

Neil, J. H., and Owen, G. E. 1964. Distribution, environmental requirements and significance of *Cladophora* in the Great Lakes, pp. 113-121. *In*: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (4)

Site: Lakes Michigan Erie, Huron, and Ontario
Topic: The ecology of *Cladophora* is examined in the Great Lakes.

Nicholls, K. H., Carney, E. C., and Robinson, G. W. 1976. Phytoplankton of an inshore area of Georgian Bay, Lake Huron, prior to reductions in P loading from local sewage treatment facilities, p. 69. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Nicholls, K. H., Carney, E. C., and Robinson, G. W. 1977. Phytoplankton of an inshore area of Georgian Bay, Lake Huron, prior to reductions in phosphorus loading. J. Great Lakes Res. 3:79-92. (4)

Site: Georgian Bay near Port McNicoll, Midland, and Penetangishene
Topic: Phytoplankton from five locations in Georgian Bay are enumerated at the species level. Predictions as to how these populations will be affected following a sewage phosphorus removal program are made.

Ontario Department of Lands and Forests. 1958. Lake trout statistics for Canadian waters of Lake Superior and Georgian Bay. Fish and Wildlife Div., Ont. Dept. Lands and Forests. 8 pp. (2)

Ontario Water Resources Commission. 1970. The Georgian Bay Survey - Bacteriological Section. 43 pp. (3)

Ophel, I. L., and Judd, J. M. 1967. Strontium-calcium relationships in aquatic food chains, pp. 221-225. *In*: Nelson, D. J. and Evans, F. C. (eds.), Symposium of Radioecology, Proc. 2nd Natl. Sump.

Parkos, W. G., Olson, T. A., and Odlaug, T. O. 1969. Water quality studies in the Great Lakes based on carbon 14 measurements on primary productivity. Water Resources Research Center, Bull. No. 17, Univ. Minnesota. 121 pp. (4, 5)

Site: Lakes Huron, Michigan, Superior, and Erie
Topic: Analyses of Great Lakes productivity. Study includes C-14 uptake, seasonal fluctuations, water quality, and predator, prey, and consumer relationships.

Patales, K. 1970. Composition and horizontal distribution of crustacean plankton in Lakes Ontario, Erie, Huron and Superior, p. 59. *In*: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Patales, K. 1971. The comparison of crustacean plankton communities of seven North American Great Lakes, pp. 109-110. *In*: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Patales, K. 1972. Crustacean plankton and the eutrophication of St. Lawrence Great Lakes. J. Fish. Res. Board Can. 29:1451-1462. (5)

Site: Great Lakes
Topic: Summer zooplankton average abundances were determined. These data were then related to earlier data on phosphorus loading, chlorophyll *a*, and Secchi disc.

Purvis, H. A. 1979. Variations in growth, age at transformation, and sex ratio of sea lampreys reestablished in chemically treated tributaries of the upper Great Lakes. Great Lakes Fish. Comm., Tech. Report No. 35. 36 pp. (2)

Site: Lakes Michigan, Huron, and Superior
Topic: Study of the growth and development of new populations of lampreys in streams previously treated to remove the lampreys.

Rao, S. S. 1976. Observations on bacteriological conditions in the upper Great Lakes 1968-1974. C. C. I. W., Sci. Series No. 64, Can. Inland Wat. Direct., Env. Can. 31 pp. (3)

Site: Lakes Superior and Huron (Georgian Bay, North Channel)
Topic: Nearshore and lakewide counts of bacteria are presented with regard to baseline levels of bacteria normally present. Samples were collected at four levels in the water column at each station.

Reckahn, J. A. 1970. Ecology of young lake whitefish (*Coregonus clupeaformis*) in South Bay, Manitoulin Island, Lake Huron, pp. 437-460. *In*: Lindsay, C. C., and Wood, C. S. (eds.), Biology of Coregonid fishes, Univ. Manitoba Press. (2)

Reckahn, J. A. 1971. Some changes in abundance and composition of fish fauna in northern Lake Huron, 1947-1970, pp. 183-184. *In*: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reckahn, J. A. 1974. Comparison of sampling characteristics of trawls, gill nets, trap nets and pound nets towards lake whitefish in South Bay, Manitoulin Island, pp. 88-89. *In*: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reckahn, J. A. 1976. Some recent improvements in trawling techniques for lake whitefish in South Bay, Manitoulin Island, p. 89. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reckahn, J. A. 1977. The South Bay experiment: a thirty year review. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reckahn, J. A. 1979. Whitefish studies in northern Lake Huron with emphasis on the value of lamprey control, p. 42. *In*: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reinert, R. E. 1970. Pesticide concentrations in Great Lakes fish. Pest. Monitor. J. 3:233-240. (2)

Site: Great Lakes
Topic: Study of insecticide occurrence (dieldrin and DDT) in fish as related to species and size.

Reinert, R. E., and Bergman, H. L. 1974. Residues of DDT in lake trout (*Salvelinus namaycush*) and coho salmon (*Oncorhyncus kisutch*) from the Great Lakes. J. Fish. Res. Board Can. 31:191-199. (2)

Reinke, J., Uthe, J. F., and Jamieson, D. 1970. Organochlorine pesticide residues in commercially caught fish in Canada--1970. Pest. Monitor. J. 6:43-49. (2)

Site: Central Canadian rivers and lakes
Topic: Occurrence of pesticides in fish are related to species, size, and weight.

Richards, J. S. 1976. Changes in fish species composition in the Au Sable River, Michigan from the 1920's to 1972. Trans. Amer. Fish. Soc. 105:32-40. (2)

Site: Au Sable River
Topic: Comparison of fish populations in the Au Sable River taken in 1920s with those taken in 1972. Species diversity, abundance, and distribution are discussed in the lotic and lentic stream environs.

Richardson, W. L., and Bierman, V. J., Jr. 1976. A mathematical model of pollutant cause and effect in Saginaw Bay, Lake Huron, pp. 138-158. *In:* Water Quality Criteria Research of the USEPA, Proceedings of an EPA-Sponsored Symposium. USEPA Report No. EPA-600/3-76-079. (4, 5)

Site: Saginaw Bay
Topic: Examination of water quality standards and use of these in a water quality model developed for Lake Ontario.

Ricker, W. E., and Loftus, K. H. 1968. Pacific salmon move east. Fish. Coun. of Can. Ann. Rev. 43:37-39. (2)

Robbins, J. A. 1979. Radiotracer studies of sediment reworking by freshwater macrobenthos. *In:* Abstracts 42nd Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (1)

Robbins, J. A., Krezoski, J. R., and Mozley, S. C. 1977. Radioactivity in sediments of the Great Lakes: Post-depositional redistribution by deposit-feeding organisms. Earth Plan. Sci. Letters 36:325-333. (1)

Site: Southern Lake Huron
Topic: 12 cores were analyzed for the relationship between vertical distributions of Pb-210 and Cs-137 and benthic macroinvertebrates. Post-depositional bioturbation is an important control of Cs and Pb concentrations in sediments.

Robertson, A. D. 1915. The mollusca of Georgian Bay, pp. 95-112. In: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (1)

Site: East Georgian Bay
Topic: Description of mollusca population including numbers, types, food, predator-prey relationships, and environment.

Robertson, A. D. 1927. The mollusca of Georgian Bay. MA Thesis, Univ. Toronto. (1)

Rodgers, G. K. 1962A. Georgian Bay and Lake Superior data report 1961. Great Lakes Inst., Prel. Report No. 4, Univ. Toronto. 114 pp. (3)

Site: Georgian Bay and Lake Superior
Topic: Data compilation for 1961.

Rodgers, G. K. 1962B. Lake Huron Data Report 1961. Great Lakes Inst., Prel. Report No. 5, Univ. Toronto. 186 pp. (3)

Site: Lake Huron
Topic: Data compilation for 1961.

Rodgers, G. K. 1963. Lake Superior, Lake Huron, and Georgian Bay Report 1960. Great Lakes Inst., Prel. Report No. 12, Univ. Toronto. 91 pp. (3)

Ruthven, A. G. 1911. A biological survey of the sand dune region on the south shore of Saginaw Bay, Michigan. Mich. Geol. Biol. Survey, Publ. No. 4, Biol. Series 2. 347 pp. (1, 2)

Site: Saginaw Bay
Topic: Detailed census of the biota present in a sand dune-lakeshore environment.

Ryder, R. A. 1972. The limnology and fish fauna of oligotrophic lakes in North America (about 1800 A. D.). J. Fish. Res. Board Can. 19:617-628. (2)

Ryerson, C. G. S. 1915. Notes on the Hirudinea of Georgian Bay, pp. 165-175. In: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (2)

Site: Georgian Bay
Topic: Description of the number, variety, occurrence, and feeding habits of the leeches.

Sars, G. O. 1915. *Entomostraca* of Georgian Bay, pp. 221-222. *In*: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (5)

Site: Georgian Home Bay (Georgian Bay)
Topic: Diversity and habitat of the cladocera and copepoda.

Savage, J. 1935. Smelts in the Canadian waters of Lake Huron. Copeia 4:194. (2)

Schelske, C. L., and Anderson, B. F. 1970. Productivity of benthic algae in the Great Lakes, p. 13. *In*: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Schelske, C. L., and Roth, J. C. 1973. Limnological survey of Lakes Michigan, Superior, Huron, and Erie. Great Lakes Res. Div., Publ. No. 17, Univ. Michigan. 108 pp. (1, 4, 5)

Site: Lakes Michigan, Huron, Superior, and Erie
Topic: Physical, chemical and biological parameters were measured on sediments and overlying water column. In Lake Huron, these samples were taken along the west coast and in Saginaw Bay. Parameters measured: Nutrient chemistry, Ca, $SO_4$, $Cl^-$, alkalinity, pH, dissolved oxygen, chlorophyll *a*, carbon fixation, and conductance.

Schelske, C. L., Feldt, I. E., Santiago, M. A., and Stoermer, E. F. 1974. Fall phytoplankton and nutrients in Saginaw Bay and western Lake Huron, p. 60. *In*: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Schelske, C. L., Feldt, L. E., Simmons, M. S., and Stoermer, E. F. 1974. Storm induced relationships among chemical conditions and phytoplankton in Saginaw Bay and western Lake Huron, pp. 78-91. *In*: Proc. 17th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (4)

Site: Western Lake Huron and Saginaw Bay
Topic: Samples (750) from western Lake Huron and Saginaw Bay were analyzed for: total phosphorus, silica, chloride, chlorophyll *a*, and carbon fixation to assess environmental conditions in this region. The differences between Saginaw Bay and Lake Huron are discussed with respect to the above parameters and plankton populations.

Schelske, C. L., Stoermer, E. F., Gannon, J. E., and Simmons, M. S. 1976. Biological, chemical and physical relationships in the Straits of Mackinac. Great Lakes Res. Div., Spec. Report No. 60, Univ. Michigan and USEPA Report No. EPA-600/3-76-095. 267 pp. (4, 5)

Site: Straits of Mackinac
Topic: Description of the straits of Mackinac, including phytoplankton, zooplankton, nutrients, temperature, $Cl^-$, pH, and currents and water movements.

Schneider, J. C., Hooper, F. F., and Beeton, A. M. 1969A. The distribution and abundance of benthic fauna in Saginaw Bay, Lake Huron, p. 43. *In*: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Schneider, J. C., Hooper, F. F. and Beeton, A. M. 1969B. The distribution and abundance of benthic fauna in Saginaw Bay, Lake Huron, pp. 80-90. *In*: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Saginaw Bay
Topic: Qualitative and quantitative determination of benthic fauna of Saginaw Bay.

Schuytema, G. S., and Powers, R. E. 1966. The distribution of benthic fauna in Lake Huron, pp. 155-163. *In*: Proc. 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15, Univ. Michigan. (1)

Site: Lake Huron, Saginaw Bay, harbor and inshore regions
Topic: Characterization of benthic fauna and their population densities in different regions of Lake Huron.

Seagran, H. L. 1970. Mercury in Great Lakes fish. Limnos 3:3-10. (2)

Seyfried, P. A. 1980. Distribution of microbial indicators and pathogens in the Great Lakes, p. 35. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Seyfried, P. I., Martin, J. M., and Fraser, D. J. 1976. Incidence of *Pseudomonas aeruginosa*, *Salmonella* sp. and *Coagulose positive staphylococci* in the surface water and sediment of the Great Lakes, p. 50. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Shauver, J. 1977. Benthic macroinvertebrate community structure and sediment chemistry in Michigan's nearshore waters of Lakes Superior, Huron and Michigan. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Shetter, D. S. 1936. Migration, growth rate, and population density of brook trout in the north branch of the Au Sable River. Trans. Amer. Fish. Soc. 66:203-210. (2)

Site: Au Sable River
Topic: Migration, growth, and distribution of brook trout.

Shrivastava, H. N. 1972. Macrobenthos of Lake Huron, p. 148. *In*: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Shrivastava, H. N. 1972. Macrobenthos of Lake Huron. Fish Res. Board Can. Tech. Rep. No. 449. (1)

Sills, J. B., and Allen, J. L. 1976. Residues of 3-trifluoromethyl-4-nitrophenol (TFM) undetected in lake trout and Chinook salmon from the upper Great Lakes. Prog. Fish Cult. 38:197. (2, 6)

Site: Lakes Huron and Superior
Topic: Test of fish populations for the presence of TFM, a lampricide. Results showed no TFM was being accumulated and results were below the limit of detection.

Sly, P. G. 1969A. Detailed sedimentological studies in the Niagara area of Lake Ontario and in the area immediately north of the Bruce Peninsula in Georgian Bay, p. 5. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Sly, P. G. 1969B. Sedimentological studies in the Niagara area of Lake Ontario and in the area immediately north of the Bruce Peninsula in Georgian Bay, pp. 341-346. In: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Georgian Bay and Lake Erie
Topic: Seismic general description of the lake bottom is given.

Sly, P. G. 1971. Submersible operations in Georgian Bay and Lake Erie--1970. Can. Inland Waters Branch, Tech. Bull. No. 44, Dept. Energy, Mines and Resources. 36 pp. (2)

Site: Georgian Bay and Lake Huron
Topic: Observations on fish, sediment, and bottom characteristics.

Smith, B. R., and Elliott, O. R. 1952. Movements of parasitic-phase sea lampreys in Lakes Huron and Michigan. Trans. Amer. Fish. Soc. 82:123-128. (2)

Site: Northern Lake Huron and northern Lake Michigan
Topic: Tagging of sea lampreys to study migratory behavior patterns.

Smith, J. B. 1968. Former lake trout spawning grounds in Lake Huron. Ont. Dept. Lands and Forests, Section Rept. (Fisheries) No. 68. (2)

Smith, S. H. 1968. Species succession and fishery exploitation in the Great Lakes. J. Fish. Res. Board Can. 25:667-693. (2)

Site: Lakes Michigan, Huron, and Superior
Topic: Report on changing fish species and numbers in the upper Great Lakes in response to fishing and the sea lamprey.

Smith, S. H. 1972A. Factors of ecologic succession in oligotrophic fish communities of the Laurentian Great Lakes. J. Fish. Res. Board Can. 29:717-730. (2)

Smith, S. H. 1972B. The future of salmonid communities in the Laurentian Great Lakes. J. Fish. Res. Board Can. 29:951-957. (2)

Spangler, G. R. 1970. Factors of mortality in an exploited population of whitefish (*Coregonus clupeaformis*) in northern Lake Huron, pp. 515-529. *In*: Lindsay, C. C. and Woods, C. S. (eds.). The Biology of Coregonid Fishes, Univ. Manitoba Press.

Spangler, G. R., and Berst, A. H. 1976. Performance of lake trout (*Salvelinus namaycush*) backcrosses, F1 Splake (*S. fontinalis* x *S. Namaycush*), and lake trout in Lake Huron. J. Fish. Res. Board Can. 33:2402-2407. (2)

Site: South Bay and Lake Huron
Topic: Results of the planting of fry from a back cross breeding of F1 Splake with female lake trout. Comparison of the different specie and a description of the behavior and mortality statistics of the new breed are discussed.

Spurr, J. M. 1978. ATP extraction, analysis and spatial distribution in Saginaw Bay, Lake Huron, p. 170. *In*: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Stauffer, T. E. 1977. A comparison of the diet and growth of brown trout (*Salmo trutta*) from the south branch and the main stream of the Au Sable River, Michigan. Michigan Dept. Natural Resources, Fish. Div., Fish. Res. Report No. 1845. 48 pp. (2)

Site: Au Sable River
Topic: Trout from the Au Sable River were sampled on a monthly basis. The samples were analyzed for age-size distributions, diet, and rate of food consumption.

Stedman, R. M. 1979. Age and growth of rainbow smelt (*Osmerus mordax*) in western Lake Huron, p. 42. *In*: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Stemberger, R. S. 1976. *Notholca laurentiae* and *N. michiganensis*, new rotifers from the Laurentian Great Lakes region. J. Fish. Res. Board Can. 33:2814-2818. (5)

Site: Lakes Michigan, Huron (Saginaw Bay), and Erie
Topic: Description and report on the occurrence of two rotifers previously unknown to Great Lakes waters.

Stemberger, R. S., and Gannon, J. E. 1976. The utility of planktonic rotifers in trophic state assessment in Lake Huron, p. 60. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Stemberger, R. S., Gannon, J. E., and Bricker, F. J. 1979. Spatial and seasonal structure of rotifer communities in Lake Huron. USEPA Report No. EPA-600/3-79-085. 160 pp. (5)

Site: Southern Lake Huron and Saginaw Bay
Topic: Species composition and distribution of planktonic rotifers. Seasonal variations and distribution maps of 46 species are presented.

Stoermer, E. F., and Kreis, R. G. 1979. Phytoplankton communities in southern Lake Huron. *In*: Abstracts 42nd Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (4)

Stoermer, E. F., and Yang, J. J. 1968. A preliminary report of the fossil diatom flora from Lake Huron sediments, pp. 253-267. *In*: Proc. 11th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (4)

Site: Western Lake Huron
Topic: A 1.8-meter gravity core recovered from Lake Huron was analyzed for diatom fossils.

Swain, W. R., Olson, T. A., and Odlaug, T. O. 1970. The ecology of the second trophic level in Lakes Superior, Michigan and Huron. Water Resour. Res. Center, Univ. Minnesota. 157 pp. (5)

Site: Lakes Michigan, Huron, and Superior
Topic: Zooplankton were measured continuously for occurrence, distribution, and species.

Sylvester, S. 1974. A biological survey on the Tittabawassee River. 1974 Staff Report, Mich. Dept. Nat. Resources, Water Qual. Div. 47 pp. (1, 2, 4)

Site: Lower 30 miles of Tittabawassee River
Topic: A biological survey was conducted to assess water quality and note any trends or changes since 1971.

Teter, H. E. 1960. The bottom fauna of Lake Huron. Trans. Amer. Fish. Soc. 89:193-197. (1)

Site: North Channel and western Lake Huron
Topic: Characterization of the bottom fauna.

Tharratt, R. G. 1957. Food habitats of the yellow perch, *Perca flavescens* (*Mitchill*), in Saginaw Bay, Lake Huron. M. Sc. Thesis, Univ. Mich.

Tharrat, R. C. 1959. Food of the yellow perch, *Perca flavescens* (*Mitchill*) in Saginaw Bay, Lake Huron. Trans. Amer. Fish. Soc. 88:330-331. (2)

Site: Saginaw Bay
Topic: Summary of the feeding habits of the yellow perch.

Thomas, R. L. 1973. The surficial sediments of Lake Huron. Can. J. Earth Sci. 10:226-271. (1)

Site: Lake Huron and mouth of Saginaw Bay
Topic: The sources of Hg and associations in surficial sediments are discussed.

Tomkins, F. T. 1951. The life-history of Georgian Bay lake trout, with some notes on its commercial fishery. M. A. Thesis, Univ. Toronto. 65 pp.

Toner, G. C. 1933. Annotated list of fishes of Georgian Bay. Copeia 1933:133-140.

Traversy, W. J., Goulden, P. D., Sheikh, Y. M., and Leacock, J. R. 1975. Levels of arsenic and selenium in the Great Lakes Region. C.C.I.W., Sci. Series No. 58, Can. Inland Waters Direct., Env. Can. 18 pp. (2)

Site: Lakes Huron, Superior, Erie, and Ontario, Georgian Bay, and North Channel
Topic: As and Se concentrations in water, fish, sediments, and precipitation.

United States Bureau of Commercial Fisheries. 1956A. Great Lakes fishery investigations: fishery study of Saginaw Bay initiated by M/V Cisco (Cruise 1), Chub populations in Lake Huron studied by M/V Cisco (Cruise 2). Comm. Fish. Rev. 18:27-29.

United States Bureau of Commercial Fisheries. 1956B. Great Lakes fishery investigations: walleye abundance in Saginaw Bay during summer studied by M/V Cisco (Cruise 3). Chub population (Cruise 4). Comm. Fish. Ref. 18:19-21.

United States Bureau of Commercial Fisheries. 1956C. Great Lakes fishery investigations: M/V Cisco tries to locate summer grounds of walleye in Lake Huron (Cruise 5). Lake Huron investigation continued by M/V Cisco (Cruise 6). Comm. Fish. Rev. 18:38-39.

United States Bureau of Commercial Fisheries. 1957. Great Lakes fishery investigations: biological studies of fish populations in Saginaw Bay and southern Lake Huron, M/V Cisco, Cruise 8. Comm. Fish. Rev. 19:40-41.

United States Department of the Interior. 1968. Report on commercial fishery resources of the Lake Huron basin. U. S. Fish and Wildlife Service.

United States Department of Interior. 1969. Fish and wildlife as related to water quality of the Lake Huron basin: detailed report on fish and wildlife resources. Fish and Wildlife Service, USDI. 134 pp. (2)

United States Geological Survey. 1971. 1970 water resources data for Michigan--part 2. Water Quality Records. U. S. Dept. Interior. 122 pp. (1, 3, 4, 5)

Site: Michigan
Topic: Compilation of water quality parameters for Michigan streams; Saginaw River, St. Mary's River, Cheboygan River, and Rifle River.

United States Geological Survey. 1974. 1972-1973 water resources data for Michigan--part 2. Water Quality Records. U. S. Dept. Interior. 253 pp. (1, 3, 4, 5)

Site: Michigan streams
Topic: Compilation of water quality parameters measured on Michigan streams.

United States Geological Survey. 1975. 1974 water resources data for Michigan--part 2. Water Quality Records. U. S. Dept. Interior. 165 pp. (3, 4, 5)

Site: Michigan streams
Topic: Compilation of water quality parameters measured on Michigan streams.

United States Geological Survey. 1976. Water resources data for Michigan, water year 1975. U. S. Geol. Surv. Water Data Report MI-75-1, U. S. Dept. Interior. 574 pp. (1, 3, 4, 5)

Site: Michigan
Topic: Compilation of measured water quality parameters on Michigan streams.

United States Geological Survey. 1977. Water resources data for Michigan, water year 1976. U. S. Geol. Surv. Water Data Report MI-76-1, U. S. Dept. Interior. 615 pp. (1, 3, 4, 5)

Site: Michigan
Topic: Compilation of measured water quality parameters on Michigan streams: Saginaw River, St. Mary's River, Cheboygan River, Rifle River.

United States Geological Survey. 1979. Water resources data for Michigan, water year 1978. U. S. Geol. Surv. Water Data Report MI-78-1, U. S. Dept. Interior. 451 pp. (1, 3, 4, 5)

Site: Michigan
Topic: Compilation of measured water quality parameters on Michigan streams: Saginaw River, St. Mary's River, Cheboygan River, Rifle River.

Van der Velden, W., and Schwartz, A. W. 1975. Nucleic acid base contents as indicators of biological activity in sediments, p. 20. *In*: Abstracts 2nd International Symposium on Environ. Biogeochemistry, Can. Centre Inland Waters. (1, 3)

Van Oosten, J. 1928. Life history of the lake herring (*Leucichthys artedi le seur*) of Lake Huron as revealed by its scales, with a critique of the scale method. Bull. U. S. Bureau Fish. 44:265-428. (2)

Site: Lake Huron
Topic: Herring population age and growth rate data obtained from the structure of the scales.

Van Oosten, J. 1929. Life history of the lake herring (*Leucichthys artedi*) le seur of Lake Huron as revealed by its scales with a critique of the scale method. Bull. U. S. Bur. Fish. 44:265-428.

Van Oosten, J. 1936. The dispersal of smelt, *Osmerus mordax* (Mitchill), in the Great Lakes region. Trans. Amer. Fish. Soc. 66:160-171. (2)

Site: Great Lakes
Topic: Report of the rapid spread of smelt in the Great Lakes Region since its introduction.

Van Oosten, J. 1938. The age, growth, sexual maturity and sex ratio of the common whitefish, *Coregonus clupeaformis* (Mitchill), of Lake Huron. Pap. Mich. Acad. Sci., Arts, Letters, Part II. 24:195-221. (2)

Site: Lake Huron
Topic: Whitefish feeding habits, growth, abundance, distribution, and sex ratio are discussed.

Van Oosten, J. 1944. Mortality of smelt, *Osmerus mordax* (Mitchill) in Lakes Huron and Michigan during the fall and winter, 1942-1943. Trans. Amer. Fish. Soc. 74:310-337. (2)

Site: Lakes Huron and Michigan
Topic: History of a progressive mortality event of the smelt population in Lakes Huron and Michigan, beginning in Saginaw Bay and spreading northward.

Van Oosten, J. 1961. Records, ages, and growth of the mooneye, *Hiodon tergisus*, of the Great Lakes. Trans. Amer. Fish. Soc. 90:170-174.

Site: Great Lakes
Topic: Summary of reported occurrences of mooneyes in the Great Lakes region, including age and size of specimens.

Van Oosten, J., Hile, R., and Jobes, R. W. 1946. The whitefish fishery of Lakes Huron and Michigan with special reference to the deep-trap-net fishery. U. S. Fish and Wildl. Serv., Fish. Bull. 50:297-394. (2)

Site: Lakes Huron and Michigan
Topic: Whitefish production, annual fluctuations in population, distribution with respect to depth, and migratory habits are discussed.

Veal, D. M., and Michalski, M. F. P. 1971A. A case of nutrient enrichment in an inshore area of Georgian Bay, pp. 201-202. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Veal, D. M., and Michalski, M. F. P. 1971B. A case of nutrient enrichment in an inshore area of Georgian Bay, pp. 277-292. In: Proc. 14th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (4)

Site: Georgian Bay
Topic: Total phosphorus and phytoplankton concentrations are reported.

Vollenweider, R. A., Munawar, M., and Stadelman, P. 1974. A comparative review of phytoplankton and primary production in the Laurentian Great Lakes. J. Fish. Res. Board Can. 31:739-762. (4)

Site: Great Lakes
Topic: Species abundance and composition are reviewed.

Walker, B. 1913. The Unione fauna of the Great Lakes. Nautilus 27:18-23, 29-34, 40-47, 56-59. (1)

Site: Great Lakes
Topic: Origin, diversity, and distribution of the Unione fauna (benthic) in the Great Lakes.

Watson, N. H. F. 1974. Zooplankton of the St. Lawrence Great Lakes--species composition, distribution, and abundance. J. Fish. Res. Board Can. 31:783-794. (5)

Site: Great Lakes
Topic: Seasonal variations of zooplankton species composition and abundance. Vertical and lake wide distributions are also described.

Watson, N. H. F. 1978. Temperature and zooplankton standing stock in the Laurentian Great Lakes, p. 190. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Watson, N. H. F., and Carpenter, G. F. 1974. Seasonal abundance of crustacean zooplankton and net plankton biomass of Lakes Huron, Erie, and Ontario. J. Fish. Res. Board Can. 31:309-317. (5)

Site: Lakes Ontario, Erie, and Huron
Topic: Crustacean zooplankton seasonal abundance, dominants, diversity, and biomass are examined.

Watson, N. H. F., Culp, L. R., and Nicholson, H. F. 1975. Chlorophyll *a* and primary production in Georgian Bay, North Channel and Lake Huron, April to December, 1974. Fisheries and Marine Service, Tech. Report No. 600. 40 pp. (4)

Site: North Channel, Georgian Bay, Straits of Mackinac, and northern Lake Huron
Topic: Measurements of chlorophyll *a* and C-14 uptake.

Werner, W. H. R., and Brubacher, M. J. 1960. Fisheries management in Georgian Bay. Ont. Dept. Lands and For., Fish. and Wildl. Serv. 10. 33 pp.

White, H. T. 1915. Bryozoa of the Georgian Bay region, pp. 195-199. *In*: Contrib. Can. Biol., Fasc. II.--Freshwater Fish and Lake Biology, Sess. Paper No. 39B. (1)

Site: Georgian Bay
Topic: Description, variety, number, seasonal abundance, and habitat of the bryozoans.

Williams, L. G. 1966. Dominant planktonic rotifers of major waterways of the United States. Limnol. Oceanogr. 11:83-91. (5)

Site: Major rivers and Port Huron (Lake Huron)
Topic: Seasonal variations, dominants, and environment controlling factors of rotifer populations in major freshwater environments throughout United States.

Wilson, J. B., Watson, N. H. F., and Devey, L. 1976. The Bosminids of the St. Lawrence Great Lakes, p. 24. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Winterton, G. K. 1972. Georgian Bay yellow pickerel project progress report, 1971. Ont. Min. Nat. Res.

Wujek, D. E., Lenon, H. L., King, R. H., and Bailey, R. E. 1978. Preliminary water quality survey of the Tittabawassee River, Midland, Michigan. Submitted to: Consumers Power Company. 366 pp. (1, 2, 4, 5)

Site: Tittabawassee River
Topic: Intense biological and chemical survey to assess the current status and trends in Tittabawassee River water quality.

Young, M., Toth, A., Janhurst, S., and Jenkins, G. 1976. A bacteriological study of the Ontario nearshore areas of Lake Huron (including the North Channel) and Georgian Bay, p. 49. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

# II

## LAKE HURON CHEMISTRY

NOTE: This list contains references which pertain to the chemical aspects of Lake Huron sediments and waters, as defined by the numbers following each reference. Subjects corresponding to the numbers are as follows:

(1) Water Major Element Chemistry
(2) Water Minor Element Chemistry
(3) Water Nutrient Chemistry (Si, P, N, vitamins)
(4) Organic Chemistry
(5) Pigments (chlorophyll _a_, etc.)
(6) Sediment Chemistry
(7) Radiochemistry

Acres Consulting Services Limited and Applied Earth Science Consultants Inc. 1975. Atmospheric loading of the upper Great Lakes. 3 volumes prepared for Canada Centre for Inland Waters (1, 2, 3)

Site: Lake Huron, Lake Superior, and Georgian Bay
Topic: Assessment of relative contributions of pollution by 30 major point sources and estimation of the annual load to the upper Great Lakes. Mathematical modeling of load processes, rates, and feedback mechanisms on climate by particulates are presented. Cd, Cu, Zn, Fe, K, Ca, $SiO_2$, TP, Pb, Ni, pH, $Cl^-$, $SO_4^{-2}$, TN, and Mg were analyzed in both wet and dry precipitation fallout samples.

Adams, C. E., Jr., and Smith, I. B., Jr. 1973. Petrographic and chemical properties of Great Lakes ice, pp. 626-639. _In_: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Great Lakes (Saginaw Bay, North Channel, and Straits of Mackinac)
Topic: Petrographic and chemical studies were run on ice and adjacent water samples.

Ainsworth, E. J., Borak, T. B., Edgington, D. N., Kisieleski, W. E., Winter, T. L., Wolsky, A. M., and Yuan, Y. 1977. Great Lakes waters: radiation dose commitments, potential health effects, and cost-benefit considerations. Argonne National Lab., No. ANL/ES-58. Prepared for U. S. Energy and Development Admin. 52 pp. (7)

Site: Great Lakes
Topic: Assessment of radioactivity levels ($Sr^{90}$, $Cs^{132}$, $Pu^{239}$, $Pu^{238}$, $H^3$, Ra, $Sb^{125}$, and $Ce^{144}$) in the Great Lakes. Also emphasizes water ingestion levels, cleanup, and dose limits.

Alberts, J. J. 1981. Concentrations of $^{239,240}$Pu, $^{137}$Cs, and $^{90}$Sr in the waters of the Laurentian Great Lakes. Comparison of 1973 and 1976 values. Envir. Sci. Tech. 15:94-98 (7)

Alberts, J. J., Wahlgren, M. A., and Nelson, D. M. 1977. Distribution of fallout plutonium in the lower Great Lakes, pp. 50-52. *In*: Radiological and Environmental Res. Div. Ann. Report-Ecology, January-December 1976, Argonne National Lab., No. ANL-76-88. (7)

Site: Lakes Huron, Michigan, Ontario, and Erie
Topic: Plutonium 239 and 240 levels in Great Lakes waters.

Allen, H. E. 1964. Chemical characteristics of south-central Lake Huron, pp. 45-53. *In*: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (1, 3)

Site: Saginaw Bay (mouth) and transect from Harbor Beach, Michigan, to Goderich, Ontario
Topic: Determination of water quality of Lake Huron to assess future environmental changes in chemistry (temperature, pH, conductivity, Na, K, Ca, $Cl^-$, $SO_4^=$, $SiO_2$, and dissolved oxygen). Five stations were used for vertical profiles and eight separate cruises (June through November) were conducted to note seasonal variations. Except for silica, no variation with season or depth was found.

Allender, J. H., and Green, A. W. 1976. Results from a numerical model for simulating circulation patterns and chlorinity distributions in Saginaw Bay. J. Great Lakes Res. 2:7-12. (1)

Site: Primarily within Saginaw Bay, (Harrisville, Harbor Beach, Port Au Gres, and Essexville) Michigan
Topic: Application of time series analysis to water level data was used to determine the response of Saginaw Bay to seiche activity.

Anderson, M. L. 1980. Degradation of polychlorinated biphenyls in sediments of the Great Lakes. Ph.D. Thesis, Univ. Michigan. 256 pp. (6)

Armstrong, F. A. J., and Lutz, A. 1977. Lake Huron, 1974:PCB, chlorinated insecticides, heavy metals and radioactivity in offshore fish. Fish. Res. Board Can., Tech. Report No. 692. 15 pp. (2)

Site: Lake Huron and Georgian Bay
Topic: Analysis of Lake Huron fish for contaminants (PCB, dieldrin, DDT, Hg, BHC, Methoxychlor, chlordane, As, Cd, Cr, Cu, Ph, Se, and Zn et al.). In addition, length, weight, and fat content are listed. Analysis by spark source mass spec. and AAS and results compared.

Auer, M. T., and Canale, R. P. 1979. Phosphorus uptake in relation to stored phosphorus levels in *Cladophora* at a site on Lake Huron, p. 25. *In*: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Auer, M. T. and Canale, R. P. 1980. Phosphorus uptake dynamics as related to mathematical modeling of *Cladophora* at a site on Lake Huron. J. Great Lakes Res. 6:1-7. (3)

see p. 2 in Biology.

Ayers, J. C. 1962. Great Lakes waters, their circulation and physical and chemical characteristics, pp. 71-89. *In*: H. J. Pincus (Ed.) Great Lakes Basin, Publ. No. 71, Amer. Assoc. Adv. Sci. (1, 2, 3)

Site: Great Lakes
Topic: Summary of the circulation patterns in the Great Lakes with basic physical and chemical characteristics discussed.

Ayers, J. C., Anderson, D. V., Chandler, D. C., and Lauff, G. H. 1956. Currents and water masses of Lake Huron. Ont. Dept. Lands and Forests, Res. Report No. 35 and Great Lakes Res. Inst., Publ. No. 1, Univ. Michigan. (1, 3)

Site: Lake Huron excluding Georgian Bay
Topic: More than 80 stations were surveyed for both physical and chemical parameters including temperature, Ca, Mg, silicon, and conductivity. Horizontal and vertical distributions are used to aid in the description of Lake Huron circulation patterns.

Barry, P. J. 1973. Estimating dose commitments to populations from radioactive waste disposals into large lakes. International Atomic Energy Agency, Vienna, 172/43, pp. 499-506. (7)

Site: Lake Huron
Topic: Estimating population $^{137}$Cs doses from drinking water, fish, and point sources.

Basch, R., Hesse, J., Masey, A., Truchan, J., Willson, R., and Wuerthele, M. 1972. Biological survey of the Tittabawassee River 1971-1972. Mich. Water Resources Comm., Dept. Nat. Resources, Water Quality Div. 98 pp. (1, 3, 4)

See p. 3 in Biology.

Batteke, J. P. H. 1976. Pollution control expenditures and trends in loadings of nutrients and toxic substances to the upper Great Lakes: A policy analysis, p. 58. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 2, 3, 4)

Beeton, A. M. 1958. Relationship between Secchi disc readings and light penetration in Lake Huron. Trans. Amer. Fish. Soc. 87-73-79. (1)

Site: Great Lakes
Topic: Overview of physical, chemical, and biological characteristics.

Beeton, A. M. 1960. Great Lakes limnological investigations, pp. 123-128. In: Proc. 3rd Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 4, Univ. Michigan. (1, 3)

See p. 3 in Biology.

Beeton, A. M. 1965. Eutrophication of the St. Lawrence Great Lakes. Limnol. Oceanogr. 10:240-154. (1)

See p. 4 in Biology.

Beeton, A. M. 1966. Indices of Great Lakes eutrophication, pp. 1-8. In: Proceeding 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15. (1, 3)

Site: Great Lakes
Topic: Eutrophication indicators.

Beeton, A. M. 1969. Changes in the environment and biota of the Great Lakes pp. 150-187. In: Beeton, A. M. and Edmondson, W. T. (eds.), Eutrophication: causes, consequences, correctives. Natl. Acad. Sci., Washington, D. C. (1, 3).

Beeton, A. M. 1970. Statement on pollution and eutrophication of the Great Lakes. Center for Great Lakes Studies, Spec. Report No. 11, Univ. Wisconsin. 35 pp. (3)

See p. 4 in Biology.

Beeton, A. M. 1971. Chemical characteristics of the Laurentian Great Lakes, pp. 1-29. In: R. A. Sweeney (ed.) Proc. Conf. on Changes in the Chemistry of Lakes Erie and Ontario. Bull. Buffalo Soc. Nat. Sci., v. 25. (1, 3)

Site: Great Lakes (emphasis on Lakes Erie and Ontario)
Topic: Discussion of trends and changes in the Great Lakes.

Beeton, A. M., and Chandler, D. C. 1963. The St. Lawrence Great Lakes, pp. 535-558. In: D. G. Frey (ed.), Limnology in North America, Univ. Wisconsin, Madison. (1, 3)

See p. 4 in Biology.

Beeton, A. M., Smith, S. H., and Hooper, F. H. 1967. Physical limnology of Saginaw Bay, Lake Huron. Great Lakes Fish. Comm., Tech. Report No. 12. 56 pp. (1, 3)

Site: Saginaw Bay
Topic: Use of water temperature and elemental concentrations to decipher the circulation patterns in the bay. In addition, estimates of flushing time and transport of river water are given.

Bell, G. L. 1980A. Lake Huron chemical and physical characteristics data for 1966. NOAA data report GLERL-3. 10 pp. (1, 3)

Site: Lake Huron (77 stations)
Topic: Determination of water quality, extent of mixing, and sediment characteristics. In addition, meteorological data were collected at each station. Parameters measured: pH, Eh, $Cl^-$, Alkalinity, $NO_3^=$, $PO_4^=$, $SO_4^=$, Si, Mg, Ca, Na, K, and temperature).

Bell, G. L. 1980B. Straits of Mackinac chemical and physical characteristics data for 1973. NOAA data report ERL GLERL-11. 11 pp. (1, 3, 6)

See p. 5 in Biology.

Bierman, V. J., Jr., and Dolan, D. M. 1976. Mathematical modeling of phytoplankton dynamics in Saginaw Bay, Lake Huron, pp. 773-779. In: Proc. Conf. Environmental Modeling and Simulation. USEPA, Report No. EPA-600/9-76-016. (4)

See p. 6 in Biology.

Bierman, V. J., Jr., and Richardson, W. L. 1976. Mathematical model of phytoplankton growth and class succession in Saginaw Bay, Lake Huron, pp. 159-173. In: Water Quality Criteria Research of the USEPA, Proceedings of an EPA-Sponsored Symposium. USEPA Report No. EPA-600/3-76-079. (3)

See p. 6 in Biology.

Blanton, J. O. 1973. Vertical entrainment into the epilimnia of stratified lakes. Limnol. Oceanogr. 18:697-704. (5)

Site: Lakes Ontario, Erie, and Huron
Topic: Entrainment of hypolimnion into the epilimnion.

Bligh, E. G. 1972. Mercury in Canadian fish. Can. Inst. Food Sci. Technol. J. 5:A6-A14. (4)

Bourbonniere, R. A., and Meyers, P. A. 1977. Humic materials in recent Lake Huron sediment, p. 17. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Bourbonniere, R. A., and Meyers, P. A. 1980. Humic matter from Holocene Great Lakes sediment: significance of its chemical composition, p. 41. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Brinkhurst, R. C. 1967. The distribution of aquatic oligochaetes in Saginaw Bay, Lake Huron. Limnol. Oceanogr. 12:137-143. (6)

See p. 7 in Biology.

Burin, G., and Robbins, J. A. 1977. Polychlorinated biphenyls (PCBs) in dated sediment cores from southern Lake Huron and Saginaw Bay. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Callender, E. 1969. Inorganic geochemistry of Great Lakes sediments, p. 29. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Canada Centre for Inland Waters. 1972. Canada Centre for Inland Waters--1971. Environment Canada. 87 pp. (1, 2, 3, 5)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1973. Canada Centre for Inland Waters--1972. Environment Canada. 125 pp. (2, 3, 5)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1974. Canada Centre for Inland Waters--1973. Environment Canada. 173 pp. (2, 4)

Site: Great Lakes
Topic: Progress and summary reports. Includes: Chlorophyll and chlorophyll derivatives. Trends in Org. C, N, P, and Hg loadings to lake sediments, sediment distribution patterns (including Mn nodules), current measurements, and radionuclide surveys.

Canada Centre for Inland Waters. 1975. Canada Centre for Inland Waters--1974. Environment Canada. 138 pp. (2, 5)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1977. Branch Annual Report 1976. Fish. and Environment Canada. 64 pp. (1, 3, 4)

Site: Great Lakes
Topic: Progress and summary reports of recent and on-going research. Includes results of studies on photic depth, water quality (TP, $NO_3^{-2}$, TDS, $SiO_2$, and $Cl^-$ loading to Georgian Bay from Lake Huron, North Channel rivers, and atmosphere), sedimentation in Goderich basin, and PCBs in precipitation.

Canale, R. P., and Squire, J. 1976. A model for total phosphorus in Saginaw Bay. J. Great Lakes Res. 2:364-373. (1, 3)

Site: 36 stations in Saginaw Bay from the central portion region to the mouth of the bay, mostly on NW side, and 19 tributary samples
Topic: Development of a model to explain phosphorus and chloride concentrations in terms of fluid transport, external loading (from air and streams), and resuspension of particulates.

Canale, R. P., Freedman, P. L., Auer, M. T., and Sygo, J. J. 1976. Saginaw Bay Limnological Data. Michigan Sea Grant Program, Tech. Report No. 54. 175 pp. (1, 2, 3, 5)

See p. 9 in Biology.

Chandler, D. C. 1964. The St. Lawrence Great Lakes. Verh. Internat. Verein. Limnol. 15:59-75. (1, 3)

See p. 10 in Biology.

Chapra, S. C., and Robertson, A. 1977. Great Lakes eutrophication: the effect of point source control of total phosphorus. Science 196:1447-1450. (3)

Site: Great Lakes with emphasis on problem areas such as Saginaw Bay, Green Bay, and western Lake Erie
Topic: Mathematical modeling of effect on TP concentration in lake water that a 1 mg/L effluent restriction would cause.

Chatterjee, R. M., and Miyamoto, H. K. 1976. A study of Lake Huron coastal regions, p. 59. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Chau, Y. K., and Saitoh, H. 1973. Mercury in the international Great Lakes, pp. 221-232. In: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (2)

Site: Lakes Huron, Ontario, Erie, and Superior
Topic: Measurement of Hg levels for a baseline reference in the future.

Conroy, N., Hawley, K., Keller, W., and LaFrance, C. 1976. Influences of the atmosphere on lakes in the Sudbury area, pp. 146-165. In: Proc. First Spec. Symposium on Atmospheric Contribution to the Chemistry of Lake Waters, Internat. Assoc. Great Lakes Res. (2)

Site: 200 km radius including much of the North Channel region--150 lakes are included in the study
Topic: The effect the Sudbury smelting complex has on atmospheric fallout to neighboring lakes is examined. Among the variables examined are pH, Ni, Cu, Zn, and Cd. Biological effects of the industry are also examined.

Daniels, S. L., Dempre, L. L., Graham, E. S., and Beeton, A. M. 1963. Quantitation of microorganic compounds in waters of the Great Lakes by adsorption on activated carbon, pp. 118-123. In: Proc. 6th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 10, Univ. Michigan. (2, 4)

Site: Hammond Bay and Lakes Huron and Michigan
Topic: Measurements of chloroform alcohol extractables by means of activated carbon were done.

Davis, C. C., and Schelske, C. L. 1976. Nutrient and phytoplankton distributions in the Michigan and Ontario nearshore waters of Lake Huron during thermal bar conditions, p. 3. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Dell, C. I. 1975. Pyrite concretions in sediment from South Bay, Lake Huron. Can. J. Earth Sci. 12:1077-1083. (6)

Site: South Bay, Manitoulin Island
Topic: Discovery of sand-sized framboid pyrite concretions in a clay facies.

Delumyea, R. G., and Petel, R. L. 1977. Atmospheric input of phosphorus to southern Lake Huron April-October, 1975. Great Lakes Res. Div., Spec. Report No. 61, Univ. Michigan and EPA Report No. EPA-600/3-77-038. 54 pp. (3)

Site: 11 stations on southern Lake Huron shoreline
Topic: Determination of the total atmospheric input of phosphorus into southern Lake Huron. Both the wet and dry components were determined.

DiToro, D, M., and Horzempa, L. M. 1981. Exchangeable and nonexchangeable components of PCB adsorption-desorption: sediment mass effects, p. 28. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

DiToro, D. M., and Matystik, W. F. 1979. Phosphorus recycle and chlorophyll in the Great Lakes. J. Great Lakes Res. 5:233-245. (3, 5)

Site: Lake Huron, Saginaw Bay, and Lake Ontario
Topic: The recycle rate of available and unavailable phosphorus is related to the chlorophyll concentration in the basin.

Dobson, H. F. H. 1974. A preliminary account of water quality trends in the Great Lakes, p. 142. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Dobson, H. F. H., Gilbertson, M., and Sly, P. G. 1974. A summary and comparison of nutrients and related water quality in Lakes Erie, Ontario, Huron, and Superior. J. Fish. Res. Board Can. 31:731-738. (1, 3, 5)

Site: Great Lakes
Topic: A summary of recent Canada Centre for Inland Waters data on nutrients and water quality. Seasonal variations are discussed and comparisons made between the lakes. Parameters measured (DO, N, P, Si, C, DOC) are condensed to mean values. Secchi disc readings and chlorophyll a are also presented.

Dolan, D. M., and Bierman, V. J., Jr. 1978. Comment on "A model for total phosphorus in Saginaw Bay." J. Great Lakes Res. 4:110-113. (1, 3)

Site: Saginaw Bay
Topic: A time variable model and a steady-state model are applied to total phosphorus and chloride in Saginaw Bay.

Dolan, D. M., and Clark, J. L. 1979. Analysis of the reduction in total phosphorus loadings from Saginaw River, 1974-1978, p. 61. In: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Dolan, D. M., Bierman, V. J., Jr., Dipert, M. H., and Geist, R. D. 1977. Statistical analysis of the spatial and temporal variability of the ratio chlorophyll a to phytoplankton cell volume in Saginaw Bay, Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Dolan, D. M., Bierman, V. J., Jr., Dipert, M. H., and Geist, R. D. 1978. Statistical analysis of the spatial and temporal variability of the ratio chlorophyll a to phytoplankton cell volume in Saginaw Bay, Lake Huron. J. Great Lakes Res. 4:75-83. (5)

See p. 13 in Biology.

Dolan, D. M., Bierman, V. J., Jr., and Fishwick, J. J. 1981. Mass balance modeling of heavy metals in Saginaw Bay, Lake Huron, p. 35. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Dolan, D. M., Bierman, V. J., Jr., Geist, R. D., and Salisbury, K. 1978. Dynamic mass balance for cadmium and zinc in Saginaw Bay, Lake Huron, p. 47. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Dolan, D. M., Bierman, V. J., Jr., Gonzales, P., and Paddy, B. 1980. Analysis of the effect of total phosphorus load reductions on phosphorus concentrations in Saginaw Bay, p. 38. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Durham, R. W. 1974. Radionuclide levels in the Great Lakes Waters--1973. Can. Inl. Waters Direct., Canada Centre for Inland Waters, Scient. Series No. 48, Env. Can. (7)

Site: Great Lakes
Topic: Establishment of radionoclide levels in Great Lakes waters with particular reference to x-ray emitting radionuclides produced by nuclear power industries.

Durham, R. W., and Pang, T. 1976. Asbestiform fibre levels in Lakes Superior and Huron. Canada Centre for Inland Waters, Sci. Series No. 67, Can. Inland Waters Direct., Env. Can. 12 pp. (1)

Site: Lakes Superior and Huron, Georgian Bay, and North Channel
Topic: Determination of asbestiform mineral concentration (primarily chrysotite cummingtonite) water. The study attempted to assess the lakewide effects of dumping of these minerals and the seasonal variation and size distribution.

East Central Michigan Planning and Development Region. 1977. Areawide waste treatment management plan, appendices 7 and 8. Water Quality Inventory and Environmental/Water Quality Relationships, Prel. Draft. (1, 6)

See p. 13 in Biology.

East Central Michigan Planning and Development Region. 1978. Areawide waste treatment management plan, appendices 8-10. Water Quality Relationships, V.I.A. Prel. Draft. (1, 3)

Site: Tittabawassee River
Topic: Inputs, land-use, and chemistry.

Effler, S. W. 1979. Inorganic carbon and carbonate equilibria in Saginaw Bay, p. 21. In: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Elder, F. C. 1975. International Joint Commission Program for Atmospheric Loading of the Upper Great Lakes, pp. 289-305. In: Proc. 2nd Federal Conf. Great Lakes, Interagency Committee on Mar. Science and Eng. of the Federal Council for Science and Technology. (1, 2, 3)

Site: Lakes Superior and Huron
Topic: Atmospheric contribution of nutrients and other material to the above lakes. 47 stations located around the Great Lakes margins and their islands.

Environmental Analysts Incorporated. 1973. Environmental Report. vol. 2, Quanicassee Plant Units 1 and 2, Appendix 2.8A, Backkground radiological characteristics Quanicassee site. 21 pp. (7)

Site: Saginaw Bay
Topic: Terrestrial and cosmic gamma radiation levels measured.

Environmental Protection Bureau. 1977. Flint River Study, August 6-7, 1974. Mich. Dept. Nat. Resources. 118 pp. (1, 3, 6)

Site: Flint River basin
Topic: An intense 24-hr survey of water quality designed to assess pollution sources and effects and provide data for comparison to earlier studies.

Fitchko, J., and Hutchinson, T. C. 1974. A comparative study of heavy metal concentrations in river mouth sediments around the Great Lakes, p. 132. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Fitchko, J., and Hutchinson, T. C. 1975. A comparative study of heavy metal concentrations in river mouth sediments around the Great Lakes. J. Great Lakes Res. 1:46-78. (2, 6)

Site: Mouths of 116 rivers entering the Great Lakes
Topic: Surface and core samples taken from the mouths of 116 rivers were analyzed for 10 heavy metals: Pb, Ag, Cd, Co, Cu, Cr, Ni, Zn, Mn, and Hg.

Fitchko, J., and Hutchinson, T. C. 1977. Fluvial input of Cu and Ni to Georgian Bay, Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Fitchko, J., and Hutchinson, T. C. 1979. Distribution and mobilization of nickel and copper in a river system draining the Coniston smelter area in Sudbury Region, p. 47. In: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Fox, M. E. 1978. Pentachlorophenol in the Great Lakes Basin, p. 56. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Frank, R. 1977. Anthropogenic influences of sediment quality at a source: pesticides and PCBs, pp. 73-76. In: Proc. Workshop on the Fluvial Transport of Sediment-Associated Nutrients and Contaminants, International Joint Commission, Internat. Reference Group on Great Lakes Poll. from Land Use Activities. (4, 6)

Site: Canadian side of Great Lakes
Topic: 34 rivermouths (9 in Lake Huron) were sampled for suspended solids and subsequently analyzed for various pesticides and PCBs.

Frank, R., Armstrong, A. E., Boelens, R. G., Braun, H. E., and Douglas, C. W. 1974. Organochlorine insecticide residues in sediment and fish tissues, Ontario, Canada. Pest. Monitor. J. 7:165-180. (4, 6)

See p. 15 of Biology.

Frank, R., Holdrinet, M., Braun, H. E., Dodge, D. P., and Spangler, G. E. 1978. Residues of organochlorine insecticides and polychlorinated biphenyls in fish from Lakes Huron and Superior, Canada, 1968-1976. Pest. Monitor. J. 12:60-68. (2)

Site: Lakes Huron and Superior
Topic: Five species of fish from Lake Superior and twelve from Lake Huron were analyzed for organochlorine insecticides and PCBs. Study describes changes in concentration of these during 1968-1976.

Frank, R., Sirons, G. J., Thomas, R. L., and McMillan, K. 1979. Triazine residues in suspended solids (1974-1976) and water (1977) from the mouths of Canadian streams flowing into the Great Lakes. J. Great Lakes Res. 5:131-135. (4)

Site: Great Lakes
Topic: Measurements of triazine (used for weed control) in suspended solids from Canadian streams entering the Great Lakes were done.

Freedman, P. L. 1974. Saginaw Bay: an evaluation of existing and historical conditions. USEPA Report No. EPA-905/9-74-003. 187 pp. (1, 3)

Site: Saginaw Bay
Topic: Analysis of biological, physical, and chemical parameters in Saginaw Bay to determine its current state and future as well as current trends in water quality.

Glooschenko, W. A., and Moore, J. E. 1972. *In situ* enrichment studies upon Lake Huron phytoplankton communities. *In*: Abstracts for Spec. Meeting of the Amer. Soc. Limnol. Oceanogr. Inc. (2, 3)

Glooschenko, W. A., and Moore, J. E. 1973. Surface distribution of chlorophyll and primary production in Lake Huron. Fish. Res. Board Can. Tech. Rept. No. 406. (5)

Glooschenko, W. A., Moore, J. E., and Vollenweider, R. A. 1973A. Chlorophyll *a* distribution in Lake Huron and its relationship to primary productivity, pp. 40-49. *In*: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (5)

See p. 16 in Biology.

Glooschenko, W. A., Moore, J. E., and Vollenweider, R. A. 1973B. Distribution of surface chlorophyll, primary production and assimilation number in the Great Lakes--a comparative study. *In*: Abstracts 36th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (5)

Glooschenko, W. A., Strachan, W. M. J., and Sampson, R. J. C. 1976A. Distribution of pesticides and PCBs in water, sediments and seston of the upper Great Lakes, p. 31. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Glooschenko, W. A., Strachan, W. M. J., and Sampson, R. C. J. 1976B. Distribution of pesticides and polychlorinated biphenyls in water, sediments, and seston of the upper Great Lakes. Pest. Monitor. J. 10:61-67. (4, 6)

Site: Nine stations in Lake Huron, two in the North Channel, five in Georgian Bay, and seventeen in Lake Superior
Topic: Analyses of water, seston, and sediment for PCBs and fifteen organochlorine pesticides and seventeen organo-phosphorus residues. Comparison of results to health standards and with one another are made. Lake Huron and Georgian Bay have higher DDT in sediments; Lake Superior has higher PCBs in sediments. Physical characteristics of sediments were determined and correlated to chemical data.

Gray, C. B. J. 1973. Chlorophyll, pheophytin and pheophorbide distributions in cores from Lakes Ontario, Erie and Huron. In: Abstracts 36th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (6)

Great Lakes Basin Commission. 1976A. Geology and ground water. Great Lakes Basin Framework Study, Appendix 3. 152 pp. (1, 2)

Site: Great Lakes basin
Topic: Assessment of current state of the Great Lakes and types of resource development that are best.

Great Lakes Basin Commission. 1976B. Limnology of lakes and embayments. Great Lakes Basin Framework Study, Appendix 4. 441 pp. (1, 2, 3, 4, 6)

See p. 18 in Biology.

Great Lakes Basin Commission. 1976C. Water Quality. Great Lakes Basin Framework Study, App. 7. 228 pp. (1)

See p. 18 in Biology.

Great Lakes Institute. 1964. Great Lakes Institute data record--1962 surveys. Part II. Lake Huron, Georgian Bay and Lake Superior. Prel. Report No. 17, Univ. Toronto. 157 pp. (3)

See p. 18 in Biology.

Great Lakes Institute. 1965. Great Lakes Institute data record--1963 surveys. Part II. Lake Huron, Georgian Bay and Lake Superior. Prel. Report No. 24, Univ. Toronto. 104 pp. (1, 4)

See p. 18 in Biology.

Gregor, D. J., and Kalinauskas, R. A. 1981. An examination of relationships between water quality and water treatment plant operation, p. 17. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Hallet, D. J., Norstrom, R. J., Onuska, F. I., and Comba, M. E. 1980. Analysis of TCDDs (tetrachlorodi benzodioxins) in Great Lakes herring gulls, p. 48. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes. Res. (4)

Henderson, C., Inglis, A., and Johnson, W. L. 1971. Organochlorine insecticide residues in fish-fall 1969. National Pesticides Monitoring Program. Pest. Monitor. J. 5:1-11. (2)

Site: Continental United States
Topic: A continuing study of the occurrences of eleven different organochlorine insecticides in freshwater fish of the United States.

Henderson, C., Inglis, A., and Johnson, W. L. 1972. Mercury residues in fish, 1969-1970. National Pesticide Monitoring Program. Pest. Monitor. J. 6:144-159. (2)

Site: Continental United States
Topic: Occurrence of methyl-mercury and total mercury in freshwater fish.

Henderson, C., Johnson, W. L., and Inglis, A. 1969. Organochlorine insecticide residues in fish. National Pesticide Monitoring Program. Pest. Monitor. J. 3:145-171. (2)

Site: Continental United States
Topic: Collection of fish from 50 stations throughout the United States and their analysis for 11 different organochlorine insecticides.

Herbst, R. P. 1969. Ecological factors and the distribution of *Cladophora glomerata* in the Great Lakes. Amer. Midland Nat. 82:90-98. (3)

See p. 21 in Biology.

Herzog, N. D., and Kinkead, J. D. 1976. Mercury in fish and sediments of Lake Superior and Lake Huron, p. 61. *In*: 19th Conf. Great Lakes. Res. Abstracts, Internat. Assoc. Great Lakes Res. (2, 6)

Horvath, F. J., Hartig, J. H., and Johnson, C. E. 1981. Water quality changes in Thunder Bay, Lake Huron, 1957-1980, p. 8. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Hutchinson, T. C., and Fitchko, J. 1974. Heavy metal concentrations and distributions in river mouth sediments around the Great Lakes, pp. 69-78. *In*: Proc. Internat. Conf. on Transport of Persistent Chemicals in Aquatic Ecosystems, Ottawa, Can. (6)

Site: Surface and core samples from river mouths of Great Lakes
Topic: Samples were analyzed for Hg, Pb, Cd, Zn, Cu, Ni, Co, Mn, Cr, Ag. Comparisons are made between the lakes, and metal relationships to sediment characteristics are assessed.

Hutchinson, T. C., and Fitchko, J. 1977. The heavy metal uptake from sediments and water by aquatic macrophytes. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

International Joint Commission. 1951. Pollution of boundary waters. Washington and Ottawa. 312 pp. (3)

See p. 22 in Biology.

International Joint Comission. 1973. Great Lakes Water Quality. Great Lakes Water Quality Board. 315 pp. (2, 4, 5)

Site: Great Lakes
Topic: Identification of problem areas on the Great Lakes for radioactive substance input, atmospheric input, and toxins.

International Joint Commission. 1974A. Great Lakes Water Quality--1973 Annual Report. Great Lakes Water Quality Board. 105 pp. (2)

See p. 22 in Biology.

International Joint Commission. 1974B. Management programs, research and effects of present land use activities on water quality of the Great Lakes, 2 vol. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 1,052 pp. (1, 2, 3, 4, 5)

Site: Great Lakes
Topic: Land use effects on Great Lakes pollution.

International Joint Commission. 1974C. Study of pollution problems of Lake Huron and Lake Superior. International Reference Group on Upper Lakes Pollution. 211 pp. (1, 2, 3, 4, 6)

See p. 23 in Biology.

International Joint Commission. 1976A. Great Lakes Water Quality 1975 Annual Report. Great Lakes Water Quality Board. 153 pp. (2, 4)

Site: Great Lakes
Topic: Water quality as related to elemental concentrations of trace metals. Toxicity to fish and water quality standards are discussed.

International Joint Commission. 1976B. Great Lakes Water Quality 1976, Appendix A. Water Quality Objectives Subcommittee Report, Great Lakes Water Quality Board. 123 pp. (2, 4)

See p. 23 in Biology.

International Joint Commission. 1976C. The waters of Lake Huron and Lake Superior, Vol. I. Summary and recommendations. Upper Lakes Reference Group. 236 pp. (1, 2, 3, 4, 5, 6)

See p. 23 in Biology.

International Joint Commission. 1977A. The waters of Lake Huron and Lake Superior, Vol. II. Lake Huron, Georgian Bay, and the North Channel. Upper Lakes Reference Group. 743 pp. (1, 2, 3, 4, 5, 6)

See p. 23 in Biology.

International Joint Commission. 1977B. Annual Progress Report. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 103 pp. (2)

Site: Great Lakes
Topic: Land use and Pb in Great Lakes sediments.

International Joint Commission. 1977C. Atmospheric loading of the lower Great Lakes and the Great Lakes drainage basin. Prepared by: Acres Consulting Services Limited. 76 pp. (1, 2, 3)

Site: Lakes Erie, Ontario, Huron, and Michigan
Topic: Determination of the atmospheric input of trace metals and nutrients to the lakes by both dry-deposition and rainfall. Formulation of a model to estimate future load trends.

International Joint Commission. 1977D. Great Lakes Water Quality 1976 Annual Report. Great Lakes Water Quality Board. 72 pp. (3)

Site: Great Lakes
Topic: Pollution objectives proposed for the Great Lakes, and identification of "problem areas" where pollution standards were not met.

International Joint Commission. 1977E. Great Lakes Water Quality 1976, Appendix B. Surveillance Subcommittee Report, Great Lakes Water Quality Board. 134 pp. (3)

Site: Great Lakes (especially Lakes Superior, Erie, and Ontario)
Topic: Identification of 44 problem sites on the Great Lakes (7 from Lake Huron) with respect to oil spills, atmospheric loading, and tributary loading.

International Joint Commission. 1978. Great Lakes Water Quality--1977 Annual Report, Appendix E. Status report on organic and heavy metal contaminants in the Lakes Erie, Michigan, Huron and Superior basins. Great Lakes Water Quality Board. 373 pp. (2, 4, 6)

See p. 23 in Biology.

International Joint Commission. 1979A. Great Lakes Water Quality--1978 Annual Report. Great Lakes Water Quality Board. 118 pp. (2, 4)

See p. 23 in Biology.

International Joint Commission. 1979B. Inventory of major municipal and industrial point source discharges in the Great Lakes basin. Great Lakes Water Quality Board. (1, 2, 3, 4)

See p. 24 in Biology.

International Joint Commission. 1979C. Water Quality of the Upper Great Lakes, May, 1979. 89 pp. (2, 3, 4, 6)

Site: Lakes Huron and Superior
Topic: Environmental assessment of the water quality with reference to the extent and causes of pollution.

Iwasiuk, H., Bourbonniere, R. A., and Meyers, P. A. 1977. Variation of organic constituents with depth in sediment from southern Lake Huron. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Johansen, K. A., and Robbins, J. A. 1977. Fallout cesium-137 in sediments of southern Lake Huron and Saginaw Bay. *In*: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6, 7)

Johnson, D. M., Hecker, I., Allen, H. B., and Mancy, K. H. 1976. Atmospheric inputs of nutrients and trace metals to Saginaw Bay, p. 8. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2, 3)

Kaiser, K. L. E. 1980. Organochlorine contaminants in sea lamprey (*Petromyzon marinus*) from the Great Lakes and Cayuga Lake, p. 47. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Kasprzyk, R., Clark, J., and Dolan, D. M. 1981. Response of total phosphorus and chlorophyll *a* in Saginaw Bay to decreases in tributary phosphorus loading, p. 9. *In*: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3, 5)

Kemp, A. L. W. 1971. Organic carbon and nitrogen in the surface sediments of Lakes Ontario, Erie and Huron. J. Sed. Pet. 41:537-548. (3, 4, 6)

Site: 335 surface sediment samples from Lakes Ontario, Erie, and Huron
Topic: Determination of organic C and N in surficial sediment samples. One representative core was analyzed from each lake. Distributions of C and N were related to lake topography.

Kemp, A. L. W. 1973. Preliminary information on the nature of organic matter in the surface sediments of Lakes Huron, Erie, and Ontario, pp. 40-48. In: E. Ingerson (Ed.) Proc. Symposium Hydrogeochemistry and Biogeochemistry, v. 1. Clarke Company, Wash. (4, 6)

Site: Lakes Huron, Erie, and Ontario
Topic: Characterization of the organic matter in surficial sediments.

Kemp, A. L. W., and Johnston, I. M. 1979. Diagenesis of organic matter in the sediments of Lakes Ontario, Erie and Huron. J. Great Lakes Res. 5:1-10. (4, 6)

Site: 14 stations in Lakes Erie, Ontario, and Huron
Topic: Degree of diagenesis is related to trophic state of the lake and water depth.

Kemp, A. L. W., and Thomas, R. I. 1976A. Cultural impact on the geochemistry of the sediments of Lakes Ontario, Erie, and Huron. Geoscience Can. 2:191-207. (1, 2, 3, 4, 6)

Site: Lakes Erie, Ontario, and Huron
Topic: Analysis of 14 cores for Eh, pH, oxygen, Si, Al, K, Na, Mg, Hg, Pb, Zn, Cd, Cu, Organic C, N, and P. Comparisons of elemental profiles to the ambrosia pollen horizon are made.

Kemp, A. L. W., and Thomas, R. L. 1976B. Impact of man's activities on the chemical composition in the sediments of Lakes Ontario, Erie, and Huron. Water, Air, and Soil Poll. 5:469-490. (1, 2, 6)

Site: 14 core locations in Lakes Erie, Huron, and Ontario
Topic: Measurement of vertical profiles of Si, Al, Fe, Mg, Ti, K, Na, Hg, Pb, Zn, Cd, Cu, Be, V, organic C, N, oxygen, Eh, and pH. These were related to anthropogenic influences.

Kemp, A. L. W., Gray, C. B. J., and Mudrochova, A. 1971. Changes in C, N, P, and S levels in Lakes Ontario, Erie and Huron sediments in the last 170 years, pp. 69-79. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3, 4, 6)

Kemp, A. L. W., Gray, C. B. J., and Mudrochova, A. 1972. Changes in C, N, P, and S in the last 140 years in 3 cores from Lakes Ontario, Erie, and Huron, pp. 251-279. In: H. E. Allen and J. R. Kramer (eds.) Nutrients in Natural Waters. J. Wiley and Sons Inc., New York. (3, 4, 6)

Site: Cores from Lakes Erie, Ontario, and Huron
Topic: Changes in total organic carbon, inorganic C, N, P, S, pH, Eh, porosity, and sediment texture are discussed for the top 50 cm of sediment. The study focuses on increased loading to the sediments since man has inhabited the area, and comparison of cores from the different lakes with respect to their proximity to urban input.

Kemp, A. L. W., Anderson, T. W., Thomas, R. L., and Mudrochova, A. 1974. Sedimentation rates and recent sediment history of Lakes Ontario, Erie and Huron. J. Sed. Pet. 44:207-218. (2, 3, 4, 6)

Site: 14 core locations in Lakes Erie, Huron, and Ontario
Topic: Sedimentation rates and variation in organic C, N, P, and Hg were measured, and total Hg, sediment, and nutrient loadings were estimated for each lake.

Kenaga, D. E., and Creal, W. S. 1981. Concentrations of selected contaminants in fish from Lakes Superior and Huron 1974 to 1978, p. 23. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Korstad, J. E. 1980. Nutrient regeneration by zooplankton in southern Lake Huron. In: 39th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (5)

Kramer, J. R. 1967. Equilibrium models and composition of the Great Lakes, pp. 243-254. In: R. B. Gould (ed.) Equilibrium Concepts in Natural Water Systems. Adv. in Chem. Series 67, Amer. Chem. Soc. (1)

Site: Great Lakes
Topic: Discussion of mineral equilibrium in Great Lakes waters.

Kramer, J. R. 1968. Mineral water chemistry, Great Lakes. Great Lakes Res. Div., Spec. Report No. 38, Univ. Michigan. 59 pp. (1, 2, 3, 6)

Site: Lakes Erie, Ontario, and Huron, including North Channel
Topic: Lake waters and interstitial waters analyzed for temperature, conductivity, pH, alkalinity, P, S, $O_2$, Cl-, $SO_4^=$, Na, K, Ca, Mg, and F.

Krezoski, J. R., and Robbins, J. A. 1977. Radioactivity in sediments of the the Great Lakes: Post depositional redistribution by deposit-feeding organisms. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6, 7)

Kwang, W. E., Filkins, J. C., and Smith, V. E. 1976. Survey of water quality in Saginaw Bay (Lake Huron), 1974-1975, p. 6. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3, 5)

Kwiatkowski, R. F. 1980. Regionalization of the upper Great Lakes with respect to surveillance eutrophication data. J. Great Lakes Res. 6:38-46. (1, 3, 5)

Site: North Channel, Georgian Bay, Lake Huron, and Lake Superior
Topic: Cl, temperature, nitrate, nitrite, dissolved silica, total phosphorus, and chlorophyll a were measured.

Lee, K. W., Smith, V. E., and Filkins, J. C. 1976. Statistical relationships among water quality parameters of Saginaw Bay (Lake Huron). In: Abstracts 39th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (1, 3, 5)

Leenheer, M. J., and Meyers, P. A. 1979. Sterols in Lake Huron sediments. In: Abstracts 42nd Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (4, 6)

Leenheer, M. J., and Meyers, P. A. 1980. Characterization of sterols in Great Lakes sediments, p. 42. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 6)

Lerman, A. 1972. Strontium 90 in the Great Lakes: Concentration-time model. J. Geophys. Res. 77:3256-3264. (7)

Site: Great Lakes
Topic: Modeling of Sr-90 accumulation in the Great Lakes.

Lichtenburg, J. L., Eichelberger, J.A., Dressman, R. C., and Longbottom, J. E. 1970. Pesticides in surface waters of the United States--A 5-year summary, 1964-1968. Pest. Monitor. J. 4:71-86. (4)

Site: Saginaw River
Topic: Summary of 5 synoptic surveys of chlorinated hydrocarbons (lindane, dieldrin) in surface waters.

Limno-Tech, Inc. 1977. Cass River water quality model. Report prepared for: The Chester Engineers and East Central Michigan Planning and Development Region. 78 pp. (3)

See p. 26 in Biology.

Limno-Tech, Inc. 1978. Projections of critical water quality conditions in Saginaw River and Bay. Prepared for: The Chester Engineers and the East Central Michigan Planning and Development Region. 100 pp. (1, 3)

See p. 26 in Biology.

Lin, C. K., and Schelske, C. L. 1977. Seasonal variations of nutrient limitation to phytoplankton growth in southern Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Lin, C. K., and Schelske, C. L. 1978. Effects of nutrient enrichment, light intensity, and temperature on growth of phytoplankton from Lake Huron. Great Lakes Res. Div., Spec. Report No. 63, Univ. Michigan. 61 pp. USEPA Report No. EPA-600/3-79-049, 64 pp. (3, 5)

See p. 26 in Biology.

Loucks, R. H., and Winchester, J. W. 1969. Particle size distribution of chlorine and bromine in mid-continent aerosols from the Great Lakes basin. Dept. Meteorology and Oceanography, Tech. Report, Univ. Michigan. (1, 2)

Site: Hawaii, continental United States, and Canada
Topic: Measurement of Br and Cl in size fractions of atmospheric aerosols and identification of principal sources for these halogens.

Manny, B. A., and Owens, R. W. 1977. Nitrogen inputs to a portion of northwestern Lake Huron by tributaries. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Marshall, J. S., B. J. Waller, and E. M. Yaguchi. 1975. Plutonium in the Laurentian Great Lakes: food-chain relationships. Verh. Internat. Verein. Limnol. 19:323-329.

McKeon, J. B., and Rogers, R. H. 1977. Water quality map of Saginaw Bay from computer processing of Landsat--2 data. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

McNaught, D. C., Griesmer, D. A., and Kennedy, M. 1978. Acute effects of PCBs on fluxes of carbon in the Lake Huron ecosystem, p. 99. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

McNaught, D. C., Kennedy, M., Griesmer, D., and Buzzard, M. 1979. Acute inhibition of natural phytoplankton populations at environmental concentrations of PCBs, p. 46. In: 22nd Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Meyers, P. A., Bourbonniere, R. A., and Takeuchi, N. 1979. Southern Lake Huron: Hydrocarbons and fatty acids in sediments. Great Lakes Res. Div., Spec. Report No. 72, Univ. Michigan. 65 pp. (4, 6)

Site: 8 locations in southern Lake Huron and 4 locations in Saginaw Bay
Topic: 12 cores from Lake Huron and Saginaw Bay were analyzed for hydrocarbons and fatty acids. Trends in the distribution of the organic components with depth in the sediment are discussed with respect to changing sources and diagenesis.

Michigan Water Resources Commission. 1954. Great Lakes water temperatures at municipal sources along Michigan's shoreline. Mich. Dept. Nat. Resources. 50 pp. (1, 2, 3)

Site: Michigan shoreline
Topic: Monthly temperature and chemistry data for municipal waters (total S, Si, Fe, Ca, Mg, Na, $Cl^-$, $SO_4^{-2}$, $HCO_3^-$, hardness, pH, and conductivity) are summarized.

Michigan Water Resources Commission. 1963. Water Quality Records--1963. State of Michigan. 69 pp. (1, 3)

See p. 28 in Biology.

Michigan Water Resources Commission. 1964. Water Quality Records--1964. State of Michigan. (1, 3)

See p. 28 in Biology.

Michigan Water Resources Commission. 1970. A survey of background water quality in Michigan streams. Mich. Dept. Nat. Resources. 47 pp. (1, 2, 3)

See p. 29 in Biology.

Miles, J. R. W., and Harris, C. R. 1973. Organochlorine insecticide residues in streams draining agricultural, urban-agricultural, and resort areas of Ontario, Canada--1971. Pest. Monitor. J. 6:363-368. (4)

Site: Three drainage basins in Ontario; one of which drains into Georgian Bay, the other two into Lake Erie
Topic: Analysis of water for organochlorine insecticides and comparison to similar analyses of the sediment and fish of these areas. Average loads are calculated.

Moll, R. A., Schelske, C. L., and Simmons, M. S. 1976. Distributions of water masses in and near the Straits of Mackinac. J. Great Lakes Res. 2:43-59. (3, 5)

Site: Northern Lake Huron and the Straits of Mackinac (50 stations)
Topic: Silica, nitrate, total and soluble phosphorus, chlorophyll *a*, pH, water temperature, and specific conductivity data from various depths were used to identify the different water masses in the Straits of Mackinac by cluster analysis. Factor analysis was also used to determine relationships between the variables.

Moll, R. A., Berry, T. D., Schelske, C. L., and Simmons, M. S. 1976. Determination of stations with similar water characteristics from multivariate analysis of limnological data, p. 774. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3, 5)

Mullin, M. D. 1976. Atmospheric inputs of phosphorus and nitrogen to Lake Huron, p. 55. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Mullin, M. D. 1980. Variation in PCB distributions in precipitation, Saginaw Bay water, and Saginaw Bay fish utilizing high resolution glass capillary gas chromatography, p. 46. *In*: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Murphy, T. J. 1979. Atmospheric inputs of polychlorinated biphenyls to the the Great Lakes. Report to the Div. Environ. Chem., Amer. Chem. Soc. Unpubl. Report. 5 pp. (4)

Site: Southwest Lakes Michigan and Huron
Topic: Estimation of atmospheric loading of PCBs to Lakes Michigan and Huron by dry deposition and event precipitation.

Murphy, T. J., and Schinsky, A. 1979. The determination of total atmospheric inputs to bodies of water during the ice season, p. 3. *In*: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Murphy, T., Schinsky, A., Paolucci, G., Combs, M., Brownawell, B., and Pokojowczyk, J. 1980. Atmospheric inputs of PCBs to Lakes Huron and Michigan, p. 30. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Nriagu, J. O. 1973. Sulphur isotope abundances in Great Lakes waters: a preliminary report, pp. 1038-1043. In: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Lakes Ontario, Erie, Huron, and Michigan
Topic: A study of $S^{34}/S^{32}$ ratios in dissolved sulfates of the Great Lakes.

O'Conner, D. J., and Mueller, J. A. 1970. Water quality model of chlorides in Great Lakes. Proc. A.S.C.E., J. San. Eng. Div. 96:955-976. (1)

Site: Great Lakes
Topic: Application of a mathematical model describing water quality changes in the past 100 years to chloride distributions and trends in the Great Lakes.

Ongley, E. D. 1974. Hydrophysical characteristics of Great Lakes tributary drainage, Canada. Appendix 3, Water Quality Records, v. 5, Internat. Reference Group Great Lakes Pollution from Land Use Activities. (1, 2, 3, 4)

Site: Lake Huron drainage basin
Topic: Tabulation of water quality records for the Lake Huron basin.

Ophel, I. L., and Judd, J. M. 1967. Strontium-calcium relationships in aquatic food chains, pp. 221-225. In: Nelson, D. J. and Evans, F. C. (eds.), Symposium of Radioecology, Proc. 2nd Natl. Symp. (1)

Owen, R. M., and Ullman, W. J. 1977. Trace element profiles and inter-element correlations in a sediment core from Alpena Basin, Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Owen, R. M., Ullman, W. J., and Rea, D. K. 1977. Relationships between the geochemistry and lithology of a banded sediment core from the Alpena Basin, Lake Huron. In: Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (6)

Owens, R. W., and Manny, B. A. 1976. Seasonal nearshore nutrient cycles in northwestern Lake Huron, p. 7. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Parkos, W. G., Olson, T. A., and Odlaug, T. O. 1969. Water quality studies in the Great Lakes based on carbon 14 measurements on primary productivity. Water Resources Research Center, Bull. No. 17, Univ. Minnesota. 121 pp. (1)

See p. 31 in Biology.

Patales, K. 1972. Crustacean plankton and the eutrophication of St. Lawrence Great Lakes. J. Fish. Res. Board Can. 29:1451-1462. (3, 5)

See p. 31 in Biology.

Phillips, C. R., and Pai, H. L. 1977. Environmental impact of radioactive waste management in the nuclear industry. Water, Air, and Soil Pollution 8:145-163. (7)

Site: Lake Huron
Topic: Radioactive wastes.

Poldoski, J. E., Leonard, E. N., Fiandt, J. T., Olson, G. F., Anderson, L. E., and Glass, G. E. 1976. Occurrence of trace metals in near-shore waters from Lakes Huron and Superior, p. 29. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Poldoski, J. E., Leonard, E. N., Fiandt, J. T., Anderson, L. E., Olson, G. F., and Glass, G. E. 1978. Factors in the determination of selected trace elements in near-shore U. S. waters of Lakes Superior and Huron. J. Great Lakes Res. 4:206-215. (2)

Site: Various nearshore locations along Superior and Huron
Topic: Measurement of unfiltered nearshore samples for trace elements. Sample handling and storage problems are discussed.

Pranti, F. A., and Tracy, B. L. 1979. Behavior of radionuclides in Lakes Superior and Huron, p. 49. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Reinert, R. E. 1970. Pesticide concentrations in Great Lakes fish. Pest. Monitor. J. 3:233-240. (2)

Site: Great Lakes
Topic: Study of insecticide occurrence (dieldrin and DDT) in fish as related to species and size.

Reinert, R. E., and Bergman, H. L. 1974. Residues of DDT in lake trout (*Salvelinus namaycush*) and coho salmon (*Oncorhyncus kisutch*) from the Great Lakes. J. Fish. Res. Board Can. 31:191-199. (2)

Reinke, J., Uthe, J. F., and Jamieson, D. 1970. Organochlorine pesticide residues in commercially caught fish in Canada--1970. Pest. Monitor. J. 6:43-49. (2)

Site: Central Canadian rivers and lakes
Topic: Occurrence of pesticides in fish are related to species, size, and weight.

Remmert, K. M., Robbins, J. A., and Edgington, D. N. 1977. Release of dissolved silica from sediments of the Great Lakes. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Richardson, W. L. 1974A. Modeling chloride distribution in Saginaw Bay, p. 237. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Richardson, W. L. 1974B. Modeling chloride distribution in Saginaw Bay, pp. 462-470. In: Proc. 17th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Saginaw Bay
Topic: A steady-state model has been developed for the circulation patterns in Saginaw Bay. This model was developed by tracing chlorides.

Richardson, W. L. 1976. An evaluation of the transport characteristics of Saginaw Bay using a mathematical model of chloride, pp. 113-139. In: R. P. Canale (ed.) Modeling Biochemical Processes in Aquatic Ecosystems, Ann Arbor Science Publ. Inc., Ann Arbor, Mich. (1)

Site: Saginaw Bay
Topic: A model is developed to determine final water quality following a given input of nutrients. The model takes into account nutrients, circulation, chloride, and phytoplankton. The model is built around two sub-models, one of which, the circulation component, is discussed here with respect to chloride concentrations.

Richardson, W. L. 1980. Distribution of Arochlor 1254 in Saginaw Bay during 1977, p. 47. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Richardson, W. L., and Bierman, V. J., Jr. 1976. A mathematical model of pollutant cause and effect in Saginaw Bay, Lake Huron, pp. 138-158. In: R. P. Canale (ed.) Modeling Biochemical Processes in Aquatic Ecosystems, Ann Arbor Science Publ. Inc., Ann Arbor, Mich. (1)

See p. 33 in Biology.

Richardson, W. L., Filkins, J. C., Thomann, R. V., and Mueller, J. A. 1981. Dynamic mass balance of PCB in Saginaw Bay, p. 23. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Robbins, J. A. 1979. The role of the sediments in the silica budget of the Great Lakes, p. 206. In: 10th Great Lakes Regional Meeting of the American Chemical Society Abstracts. (3, 6)

Robbins, J. A. 1977. Recent sedimentation rates in southern Lake Huron and Saginaw Bay. In: Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (6, 7)

Robbins, J. A. 1979. Radiotracer studies of sediment reworking by freshwater macrobenthos. In: Abstracts 42nd Ann. Meeting, Amer. Soc. Limnol. Oceanogr. (7)

Robbins, J. A. 1980A. Seasonal variations in the flux of dissolved silicon from sediments in Saginaw Bay, p. 41. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Robbins, J. A. 1980B. Sediments of southern Lake Huron: elemental composition and accumulation rates. USEPA Report No. EPA-600/3-80-080, August 1980. (1, 2, 3, 6, 7)

Site: Southern Lake Huron
Topic: ≈100 sediment cores were sectioned and analyzed for Al, As, Ba, Br, Ca, Cd, Ce, Co, Cr, Cs, Cu, Eu, Fe, K, La, Lu, Hg, Hf, Mg, Mo, Mn, Na, Ni, P, Pb, Rb, Sb, Sc, Si, Sm, Sn, Sr, Ti, Th, U, V, Yb, and Zn. Many cores were dated by Pb-210 and Cs-137 to estimate depositional rates. In addition, interstitial waters were analyzed in some of the cores. Vertical distribution of elements, areal maps of surface concentrations, and bioturbation are discussed.

Robbins, J. A., and Johansen, K. A. 1979. Cesium-137 in the sediments of Lake Huron, p. 10. In: 22nd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6, 7)

Robbins, J. A., Krezoski, J. R., and Mozley, S. C. 1977. Radioactivity in sediments of the Great Lakes: Post-depositional redistribution by deposit-feeding organisms. Earth Plan. Sci. Letters 36:325-333. (6, 7)

See p. 34 in Biology.

Robbins, J. A., Remmert, K., and Edgington, D. N. 1977. Regeneration of silicon from sediments of the Great Lakes, pp. 82-86. In: Argonne National Laboratory, Radiological and Environmental Res. Div. Annual Rept., ANL-76-88, Part 3. (3)

Site: Northern Lake Huron
Topic: Interstitial fluids from one set of cores were measured for Si to estimate Si fluxes. Another set of cores was allowed to incubate and Si fluxes to overlying water were measured.

Rockwell, D. C. 1981. Maximum percent ice cover as an indicator mechanism for changes in large lake total phosphorus concentrations, p. 38. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Rodgers, G. K. 1962A. Georgian Bay and Lake Superior data report 1961. Great Lakes Inst., Prel. Report No. 4, Univ. Toronto. 114 pp. (1, 4)

See p. 34 in Biology.

Rodgers, G. K. 1962B. Lake Huron data report 1961. Great Lakes Inst., Prel. Report No. 5, Univ. Toronto. 186 pp. (1, 5)

See p. 34 in Biology.

Rodgers, G. K. 1963. Lake Superior, Lake Huron and Georgian Bay report 1960. Great Lakes Inst., Prel. Report No. 12, Univ. Toronto. 91 pp. (1, 4)

See p. 34 in Biology.

Rogers, R. H., and McKeon, J. B. 1978. Application of landsat to surveillance of lake eutrophication, p. 149. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Rogers, R. H., McKeon, J. B., and Smith, V. E. 1976. Computer mapping of Saginaw Bay water quality from landsat, p. 73. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Ross, I. P., and Chatterjee, R. M. 1976. History of low level radium 226 inputs to Serpent Harbor and the North Channel, p. 30. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (7)

Rossmann, R. 1981. Trace metal chemistry of Lake Huron's waters, p. 34. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Rygwelski, K. R., and Townsend, J. M. 1981. Partitioning of cadmium, copper, lead, and zinc among water and particulate fractions in Saginaw Bay, Lake Huron, p. 35. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Schelske, C. L. 1975. Silica and nitrate depletion as related to rate of eutrophication in Lakes Michigan, Huron and Superior, pp. 277-298. In: A. D. Hasler (ed.) Coupling of Land and Water Systems. Ecol. Studies, v. 10. Springer-Verlag, New York, Inc. (3)

Site: Lakes Michigan, Huron and Superior
Topic: Relationship of nutrient depletion to eutrophication in the upper Great Lakes. The trophic stages during which depletion of each nutrient occurs and a model for nutrient utilization versus eutrophication are discussed.

Schelske, C. L. 1979. Role of phosphorus in Great Lakes eutrophication: Is there a controversy? J. Fish. Res. Board Can. 36:386-288. (3)

Site: Great Lakes region
Topic: Discussion of the limiting role of phosphorus as a nutrient for growth with respect to improper citation of references regarding this in a recent International Joint Commission paper, and how this can create a controversy.

Schelske, C. L., and Roth, J. C. 1973. Limnological survey of Lakes Michigan, Superior, Huron and Erie. Great Lakes Res. Div., Publ. No. 17, Univ. Michigan. 108 pp. (1, 3, 5)

See p. 35 in Biology.

Schelske, C. L., Feldt, L. E., Santiago, M. A., and Stoermer, E. F. 1974. Fall phytoplankton and nutrients in Saginaw Bay and western Lake Huron, p. 60. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Schelske, C. L., Feldt, L. E., Simmons, M. S., and Stoermer, E. F. 1974. Storm induced relationships among chemical conditions and phytoplankton in Saginaw Bay and western Lake Huron, pp. 78-91. In: Proc. 17th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 3, 5)

See p. 35 in Biology.

Schelske, C. L., Stoermer, E. F., Gannon, J. E., and Simmons, M. S. 1976. Biological, chemical and physical relationships in the Straits of Mackinac. Great Lakes Res. Div., Spec. Report No. 60, Univ. Michigan and USEPA Report No. EPA-600/3-76-095. 267 pp. (1, 3)

See p. 36 in Biology.

Seagran, H. L. 1970. Mercury in Great Lakes fish. Limnos 3:3-10. (2)

Shauver, J. 1977. Benthic macroinvertebrate community structure and sediment chemistry in Michigan's nearshore waters of Lakes Superior, Huron and Michigan. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Sills, J. B., and Allen, J. L. 1976. Residues of 3-trifluoromethyl-4-nitrophenol (TFM) undetected in lake trout and Chinook salmon from the upper Great Lakes. Prog. Fish Cult. 38:197. (2, 6)

Site: Lakes Huron and Superior
Topic: Test of fish populations for the presence of TFM, a lampricide. Results showed no TFM was being accumulated and results were below the limit of detection.

Silver, M. L., and Moore, C. A. 1971. Phosphate nutrient occurrence and distribution in Great Lakes sediments, p. 195. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3, 6)

Singer, P. C., O'Melia, C. R., Tobiason, J. E., and Dempsey, B. A. 1978. Equilibrium modeling of trace metals in Saginaw Bay, p. 167. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Sly, P. G. 1977. Sedimentary environments in the Great Lakes, pp. 76-82. In: H. L. Golterman (ed.) Interactions Between Sediments and Fresh Water. Dr. W. Junk B. V. Publishers, The Hague. (1, 2, 3, 6)

Site: Niagara River mouth, Lake Ontario, and Georgian Bay
Topic: Grain size and geochemical data on the surficial sediments of the above areas. Major elements reflect the clay distribution (Al, K, Na and Si) in these areas. Enrichments of certain trace elements (Hg) reflect anthropogenic input.

Smith, V. E., and Filkins, J. C. 1981. Partitioning of polychlorinated biphenyls (PCB) among water and particulate fractions in Saginaw Bay, Lake Huron, p. 22. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Smith, V. E., Lee, K. W., Filkins, J. C., Hartwell, K. W., Rygwelski, K. R., and Townsend, J. M. 1977. Survey of chemical factors in Saginaw Bay (Lake Huron). USEPA Report No. EPA-600/3-77-125. 143 pp. (1, 3, 4, 5)

Site: 61 stations over a 2-year period in Saginaw Bay
Topic: Intense monitoring of Saginaw Bay water quality with sampling every 18 days from April to October to assess the current state of the bay. Parameters measured are temperature, conductivity, pH, DO, $Cl^-$, alkalinity, Secchi, chlorophyll, $NO^{2-}{}_3$, $PO^{2-}{}_4$, organic N, total P, OC, total solids, K, Na, Ca, and Mg. The adverse effects Saginaw River has on the bay and lake are discussed.

Spurr, J. M. 1978. ATP extraction analysis and spatial distribution in Saginaw Bay, Lake Huron, p. 170. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4, 5)

Strachan, W. M. J. 1973. A statistical examination of Great Lakes chemical monitor data at Canada Centre for Inland Waters, pp. 949-957. In: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 3)

Site: Lakes Huron, Ontario, and Erie
Topic: Precision of the sampling method and of the analytical procedure were examined. Parameters examined include DO, pH, turbidity, specific conductance, ammonia, nitrate-nitrite, total filtered N, particulate N, organic C, total $PO^{2-}{}_4$, total filtered $PO^{-2}{}_4$, $Cl^-$, reactive $SiO_2$, and alkalinity.

Strachan, W. M. J., and Huneault, H. 1979. Polychlorinated biphenyls and organochlorine pesticides in Great Lakes precipitation. J. Great Lakes Res. 5:61-68. (4)

Site: Canadian side of the Great Lakes
Topic: Snow and rain samples were analyzed for PCBs and various pesticides from 1975 - 1976.

Strachan, W. M. J., Huneault, H., and Schertzer, W. M. 1977. PCBs and organochlorine pesticides in Great Lakes precipitation. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Sutherland, J. C. 1969. Geochemical systems in the Great Lakes compared with Onondaga Lake (central New York state), p. 28. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 6)

Sylvester, S. 1974. A biological survey on the Tittabawassee River. 1974 Staff Report, Mich. Dept. Nat. Resources, Water Quality Div. 47 pp. (6)

See p. 39 in Biology.

Takeuchi, N., and Meyers, P. A. 1977. Fatty acids and hydrocarbons: Comparison of Saginaw Bay and Goderich Basin sediments. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (6)

Thomas, N. A. 1976. The study of short term water quality phenomena with *in situ* buoys, p. 46. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Thomas, R. L. 1973. The distribution of mercury in the surficial sediments of Lake Huron. Can. J. Earth Sci. 10-194-204. (2, 6)

Site: Lake Huron and mouth of Saginaw Bay
Topic: Total Hg was determined for 163 surficial sediment samples of Lake Huron and sources and associations of Hg in sediments are discussed.

Thomas, R. L. 1974. The distribution and transport of mercury in the sediments of the Laurentian Great Lakes system, pp. 1-16. In: Proc. Internat. Conf. on Transport of Persistent Chemicals in Aquatic Ecosystems, Ottawa, Can. (2, 6)

Site: Canadian Great Lakes, Lake St. Clair, and Detroit River
Topic: 1,317 samples of the top 3 cm sediment were analyzed for total Hg. The results were used to determine hypothesized sources of Hg and its dispersion through the Great Lakes system.

Tiffany, M. A., and Winchester, J. W. 1969A. Surface water inputs of iodine, bromine, and chlorine to Lake Huron, p. 1. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 2)

Tiffany, M. A., and Winchester, J. W. 1969B. Surface water inputs of iodine, bromine, and chlorine to Lake Huron, pp. 789-800. In: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 2)

Site: Lake Huron and its tributaries and outflows
Topic: Measurements of Cl, I, Br in surface waters were used to calculate a mass balance of these elements for Lake Huron.

Tiffany, M. A., Winchester, J. W., and Loucks, R. H. 1968. Natural and pollution sources of iodine, bromine, and chlorine in the Great Lakes. Dept. Meterol. and Oceanogr., Publ. No. 151, Univ. Michigan. 36 pp. (1, 2)

Site: Great Lakes
Topic: Determination of I, Br, and Cl in 90 water samples. The different areas are compared and trends and sources are discussed.

Tiffany, M. A., Winchester, J. W., and Loucks, R. M. 1969. Natural and pollution sources of iodine, bromine, and chlorine in the Great Lakes. J. Water Poll. Control Fed. 41:1319-1329. (1, 2)

Site: Great Lakes
Topic: Measurement of Cl, Br, and I in Great Lakes water for the purpose of developing a mass balance model for halogens in the Great Lakes.

Torgensen, T., Top, Z., Clarke, W. B., Jenkins, W. J., and Broecker, W. S. 1977. A new method for physical limnology-tritium-helium-3 ages results for Lakes Erie, Huron, and Ontario. Limnol. Oceanogr. 22:181-193. (7)

Site: Lakes Ontario, Erie, and Huron
Topic: Measurements of tritium-helium data at various water depths were used to determine gas exchange with atmosphere, water mass ages, gas renewal and mixing during turnover, and eddy diffusivities.

Traversy, W. J., Goulden, P. D., Sheikh, Y. M., and Leacock, J. R. 1975. Levels of arsenic and selenium in the Great Lakes region. Canada Centre for Inland Waters, Sci. Series No. 58, Can. Inland Waters Direct., Env. Can. 18 pp. (2, 6)

See p. 40 in Biology.

Ullman, W., and Robbins, J. A. 1977. Major and minor elements in recent sediments of southern Lake Huron and Saginaw Bay: Patterns and rates of deposition, historical records, and interelement associations. In: Abstracts 40th Ann. Meeting, Amer. Soc. Limnol. Oceanogr. Inc. (6)

United States Geological Survey. 1971. 1970 water resources data for Michigan --part 2. Water Quality Records. U. S. Dept. Interior. 122 pp. (1, 2, 3, 5)

See p. 41 in Biology.

United States Geological Survey. 1974. 1972-1973 water resources data for Michigan--part 2. Water Quality Records. U. S. Dept. Interior. 253 pp. (1, 2, 3, 5)

See p. 41 in Biology.

United States Geological Survey. 1975. 1974 water resources data for Michigan--part 2. Water Quality Records. U. S. Dept. Interior. 165 pp. (1, 2, 3)

See p. 41 in Biology.

United States Geological Survey. 1976. Water resources data for Michigan, water year 1975. U. S. Geol. Surv. Water Data Report MI-75-1, U. S. Dept. Interior. 574 pp. (1, 2, 3, 5)

See p. 41 in Biology.

United States Geological Survey. 1977. Water resources data for Michigan, water year 1976. U. S. Geol. Surv. Water Data Report MI-86-1, U. S. Dept. Interior. 615 pp. (1, 2, 3, 5)

See p. 42 in Biology.

United States Geological Survey. 1979. Water resources data for Michigan, water year 1978. U. S. Geol. Surv. Water Data Report MI-78-1, U. S. Dept. Interior. 451 pp. (1, 2, 3, 5)

See p. 42 in Biology.

Upchurch, S. E. 1972A. Natural weathering and chemical loads in the Great Lakes, p. 63. In: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Upchurch, S. E. 1972B. Natural weathering and chemical loads in the Great Lakes, pp. 401-415. In: Proc. 15th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res.

Site: Great Lakes
Topic: Loadings of total dissolved solids, $Cl^-$, $PO_4^{3-}$, Ca, and dissolved $SiO_2$ are discussed.

Van der Velden, W., and Schwartz, A. W. 1975. Nucleic acid base contents as indicators of biological activity in sediments, p. 20. In: Abstracts 2nd International Symposium on Environ. Biogeochemistry, Can. Centre Inland Waters. (6)

See p. 42 in Biology.

Veal, D. M., and Michalski, M. F. P. 1971A. A case of nutrient enrichment in an inshore area of Georgian Bay, pp. 201-202. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Veal, D. M., and Michalski, M. F. P. 1971B. A case of nutrient enrichment in an inshore area of Georgian Bay, pp. 277-292. In: Proc. 14th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 3)

See p. 43 in Biology.

Wahlgren, M. A., and Nelson, D. M. 1974. Plutonium in the five Great Lakes: Comparison of surface waters, pp. 93-98. In: Radiological and Environmental Div. Ann. Report-Ecology, January-December, 1973, Argonne National Lab., No. ANI-8060. (7)

Site: Great Lakes
Topic: Comparison of $Pu^{239}$, $Cs^{137}$, $Sr^{90}$ and $Sb^{125}$ levels in the different Great Lakes.

Wahlgren, M. A., and Nelson, D. M. 1975. Plutonium in the Laurentian Great Lakes: Comparison of surface waters. Verh. Internat. Verein. Limnol. 19:317-322. (7)

Site: Great Lakes
Topic: Analysis of surface $H_2O$ samples (3 from Lake Huron proper) for $Sr^{90}$, $Cs^{137}$, $Pu^{239}$ and comparison to concentrations in the other Great Lakes.

Wahlgren, M. A., Alberts, J. J., Orlandini, K. A., and Kucera, E. T. 1977. A comparison of the concentrations of fallout-derived plutonium in a series of freshwater lakes, pp. 92-94. In: Argonne National Laboratory, Radiological and Environmental Res. Div. Annual Rept., ANL-77-65, Part 3. (7)

Site: Great Lakes
Topic: Plutonium fallout.

Wahlgren, M. A., Robbins, J. A., and Edgington, D. N. 1980. Plutonium in the Great Lakes, pp. 659-683. In: W. C. Hanson (ed.), Transuranic Elements in the Environment. Technical Information Center, U. S. Dept. of Energy, DOE/TIC-22800. (7)

Site: Great Lakes
Topic: Levels of plutonium in Lake Huron waters in 1973, 1974, 1976.

Warry, N. D. 1976. The chemical limnology of Georgian Bay and the North Channel, p. 60. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 2, 3)

Warry, N. D. 1978A. Chemical limnology of Georgian Bay, 1974. Canada Centre for Inland Waters, Sci. Series No. 91, Can. Inland Waters Direct., Fish. and Envir. Can. (1, 2, 3)

Site: Georgian Bay
Topic: Complete description of chemistry of Georgian Bay including major elements, trace elements, and nutrients.

Warry, N. D. 1978B. Chemical limnology of the North Channel, 1974. Canada Centre for Inland Waters, Sci. Series No. 92, Can. Inland Waters Direct., Fish. and Envir. Can. (1, 2, 3)

Site: North Channel
Topic: Complete chemical description of the North Channel waters.

Watson, N. H. F. 1977. The phosphorus-chlorophyll relationship in the Great Lakes. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3, 5)

Watson, N. H. F., Culp, I. R., and Nicholson, H. F. 1975. Chlorophyll a and primary production in Georgian Bay, North Channel and Lake Huron, April to December, 1974. Fisheries and Marine Service, Tech. Report No. 600. 40 pp. (4)

See p. 44 in Biology.

Weiler, R. R., and Chawla, V. K. 1969. Dissolved mineral quality of the Great Lakes waters, pp. 801-818. In: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 2)

Site: Lakes Erie, Huron, Ontario, and Superior
Topic: Analyses of major element (Ca, Mg, Na, K, $SO^{2-}_4$, $Cl^-$, $HCO_3^-$, and F) and minor element (Zn, Cu, Pb, Fe, Ni, Cr, Mn, Sr) concentrations in Great Lakes waters were made for comparison to earlier measurements of these parameters to note trends and changes in lake water chemistry.

Weiler, R. R., and Nriagu, J. O. 1978. Isotopic composition of dissolved inorganic carbon in the Great Lakes. J. Fish. Res. Board Can. 35:422-430. (1)

Site: Canadian Great Lakes
Topic: 150 analyses of the $^{13}C$ value for dissolved total inorganic carbon in the Great Lakes. Samples from the epilimnion and hypolimnion were analyzed, and seasonal variability as well as differences among the Great Lakes were discussed.

Winchester, J. W. 1970A. Chemical equilibria of iodine in Great Lakes waters, p. 90. In: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Winchester, J. W. 1970B. Chemical equilibria of iodine in Great Lakes waters, pp. 137-140. In: Proc. 13th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (2)

Site: Great Lakes
Topic: Aspects of environmental effects of iodine concentrations and iodine recycling are discussed.

Wood, L. E. 1964. Bottom sediments of Saginaw Bay, Michigan. J. Sed. Pet. 34:173-184. (6)

Site: Saginaw Bay
Topic: 61 surficial sediment samples were examined to determine their areal distribution, physical characteristics, and organic content.

Wujek, D. E., Lenon, H. I., King, R. H., and Bailey, R. E. 1978. Preliminary water quality survey of the Tittabawassee River, Midland, Michigan. Submitted to: Consumers Power Company. 366 pp. (1, 2, 3, 4, 5)

See p. 45 in Biology.

## III

## LAKE HURON GEOLOGY (CHRONOLOGY, HISTORY, AND LAND USE)

NOTE: This list contains references which pertain to the geological aspects and land use of the Lake Huron basin as defined by the numbers following each reference. Subjects corresponding to the numbers are as follows:

(1) Lake History
(2) Bedrock Geology
(3) Land Use
(4) Chronology
(5) Sediments

Anderson, T. W., and Lewis, C. F. M. 1974. Chronology and paleoecology of a Holocene buried plant detritus bed in Lake Huron, p. 4. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Anderson, T. W., and Terasmae, J. 1966. Palynological study of bottom sediments in Georgian Bay, Lake Huron, pp. 164-168. In: Proc. 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15, Univ. Michigan. (4)

Site: Central and western Georgian Bay
Topic: Surface sediment samples were analyzed for pollen and spores to test the feasibility of more extensive palynological studies on the bay.

Ayers, J. C. 1960. Status and programs, pp. 61-74. In: Proc. 3rd Conf. Great Lakes Res., Great Lakes Research Div., Publ. No. 4, Univ. Michigan. (3)

Site: Straits of Mackinac
Topic: Water volume transport and sediment descriptions for the Straits of Mackinac region.

Blasco, S. M. 1980. Late Quaternary events in the Georgian Bay basin, p. 26. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Bretz, J. H. 1950. Causes of the glacial lake stages in Saginaw Basin, Michigan. J. Geology 59:244-258. (1)

Site: Saginaw basin
Topic: Development of glacial stages (retreats and advances) relative to observed glacial deposits.

Bretz, J. H. 1964. Correlation of glacial lake stages in the Huron-Erie and Michigan basins. J. Geology 72:618-627. (1)

Site: Mid-Great Lakes region
Topic: Discussion of data correlating changing lake levels with a criticism of earlier work by J. Hough and presentation of author's own theories.

Casshyap, S. M. 1968. Huronian stratigraphy and paleocurrent analysis in the Espanola-Willsville area, Sudbury district, Ontario, Canada. J. Sed. Pet. 38:920-942. (1,2)

Site: Sudbury district, north of North Channel
Topic: Stratigraphy and paleocurrent analysis of the Huronian formations in the Sudbury district.

Collins, W. H. 1925. North shore of Lake Huron. Geol. Surv. Can. Memoirs, No. 143. 160 pp. (2)

Site: North of Lake Huron
Topic: Stratigraphy and geology of the above area with discussion of ore deposits.

Cvancara, A. M., and Melik, J. C. 1961. Bedrock geology of Lake Huron, pp. 116-125. In: Proc. 4th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 7, Univ. Michigan. (2)

Site: 17 wells in and around Lake Huron
Topic: The characterization of the Lake Huron basin bedrock geology. A geologic map is presented.

Dell, C. I. 1976. Mineralogical trends in a sediment core from South Bay, Lake Huron, and their environmental significance, p. 14. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Dreimanis, A. 1958. Beginning of the Nipissing phase of Lake Huron. J. Geol. 66:591-594. (1, 4)

Site: Near Sarnia, Ontario
Topic: Analysis of a Nipissing beach bar yielded reworked beach material. Dating of two logs included in this material gives an approximate age for the Nipissing stage.

East Central Michigan Planning and Development Region. 1977. Areawide waste treatment management plan, App. 7, 8. Water quality inventory and environmental/water quality relationships, prel. draft. (3)

See p. 13 in Biology.

East Central Michigan Planning and Development Region. 1978. Areawide waste treatment management plan, App. 8-10. Water quality relationships. V. I. A. prel. draft. (3)

See p. 10 in Chemistry.

Farrand, W. R., and Miller, B. B. 1968. Radiocarbon dates on and depositional environment of Wasaga Beach (Ontario) marl deposit. Ohio J. Sci. 68:235-239. (1, 4)

French, W. E. 1960. The sedimentary environment of southern Lake Huron. MS Thesis, Univ. Michigan. 23 pp. (4)

Site: Southwestern Lake Huron
Topic: The distribution and texture of surficial sediments in southwestern Lake Huron.

Goldthwaitt, J. W. 1910. An instrumental survey of the shorelines of the extinct lakes Algonquin and Nipissing in southwestern Ontario. Can. Geol. Survey, Memoirs, No. 10. 57 pp. (1)

Site: Southwestern Ontario
Topic: Study of raised beaches and abandoned shorelines at numerous localities in an attempt to document past changes in lake levels by correlation of the different areas.

Great Lakes Basin Commission. 1976A. Alternative frameworks. Great Lakes Basin Framework Study, App. 1. 476 pp. (3)

Site: Great Lakes basin
Topic: Water and land resources, land use, economics, and future guidelines.

Great Lakes Basin Commission. 1976B. Environmental impact statement. Great Lakes Basin Framework Study. 152 pp. (2, 3).

See p. 17 in Biology.

Great Lakes Basin Commission. 1976C. Erosion and sedimentation. Great Lakes Basin Framework Study, App. 18. (3)

Site: Great Lakes basin
Topic: Mean rates of erosion and sedimentation and future trends of both are presented with reference to land use.

Great Lakes Basin Commission. 1976D. Geology and ground water. Great Lakes Basin Framework Study, App. 3. 152 pp. (2)

See p. 13 in Chemistry.

Great Lakes Basin Commission. 1976E. Land use and management. Great Lakes Basin Framework Study, App. 13. 119 pp. (3)

Site: Great Lakes basin
Topic: Existing land use and management conditions and problems.

Great Lakes Basin Commission. 1976F. Limnology of lakes and embayments. Great Lakes Basin Framework Study, App. 4. 441 pp. (2)

See p. 18 in Biology.

Great Lakes Basin Commission. 1976G. Mineral resources. Great Lakes Basin Framework Study, App. 5. 136 pp. (3)

Site: Great Lakes basin
Topic: Current status and future potential of mineral resources and their effect on the Great Lakes Systems.

Great Lakes Basin Commission. 1976H. Shore use and erosion. Great Lakes Basin Framework Study, App. 12. 111 pp. (3)

Site: Great Lakes basin
Topic: Discussion of shoreland use and erosional effects of storms and waves.

Hewitt, D. F. 1967. Geology and mineral deposits of the Parry Sound-Huntsville area. Ontario Dept. Mines, Geol. Report No. 52. 65 pp. (2)

Site: Eastern Georgian Bay
Topic: Sediment load data are given.

Hough, J. L. 1953. Revision of the Nipissing stage of the Great Lakes. Trans. Ill. State Acad. Sci. 46:133-141. (1)

Site: Great Lakes basin
Topic: Correction or revision of Nipissing stage of the Great Lakes as a result of new radiocarbon dates along several Great Lakes shorelines.

Hough, J. L. 1958. Geology of the Great Lakes. Univ. Illinois Press, Urbana, Ill. 313 pp. (1, 2, 4)

Site: Great Lakes basin
Topic: Geologic history of the Great Lakes region. Development of basins, structural deformation, post-glacial history (Algonquin, Nipissing), bottom topography, sedimentation, and erosion surface information are presented.

Hough, J. L. 1962. Lake Stanley, a low stage of Lake Huron indicated by bottom sediments. Geol. Soc. Amer. Bull. 73:613-620. (1)

Site: Northwestern Lake Huron
Topic: Analyses of cores from northwestern Lake Huron indicate an unconformity interrupting a deep water clay sequence. These and other data are discussed relative to a low-level stage of Lake Huron.

Hough, J. L. 1966. Correlation of glacial lake stages in the Huron-Erie and Michigan basins. J. Geology 74:62-77. (1)

Site: Basins of Lakes Huron, Erie, and Michigan
Topic: Discussion of available evidence pertinent to Great Lakes history (primarily glacial) and development of author's hypothesis.

Hough, J. L. 1969. Post-Valders history of the Huron and Michigan basins, p. 61. _In_: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

International Joint Commission. 1974. Management programs, research and effects of present land use activities on water quality of the Great Lakes, 2 vol. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 1,052 pp. (3)

See p. 15 in Chemistry.

International Joint Commission. 1976A. Great Lakes Water Quality 1975 Annual Report, Great Lakes Water Quality Board. 153 pp. (3)

See p. 16 in Chemistry.

International Joint Commission. 1976B. Inventory of Land Use and Land Use Practices in the United States Great Lakes Basin, Vol. IV - Lake Huron Basin. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 188 pp. (3)

Site: Lake Huron basin
Topic: Geology, climate, surface and ground water resources, land use activities, vegetation, and wildlife of basin are presented.

International Joint Commission. 1977A. Annual Progress Report. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 103 pp. (3).

See p. 16 in Chemistry.

International Joint Commission. 1977B. Inventory of Land Use and Land Use Practices in the Canadian Great Lakes Basin, Vol. III - Canadian Lake Huron Basin. Internat. Reference Group on Great Lakes Pollution from Land Use Activities. 93 pp. (3)

Site: Lake Huron basin
Topic: Geology, climate, surface and ground water resources, land use activities, vegetation, and wildlife of Lake Huron basin are presented.

Karrow, P. F., Anderson, T. W., Clarke, A. H., Delorme, L. D., and Sreenivasa, M. B. 1975. Stratigraphy, paleontology, and age of Lake Algonquin sediments in Southwestern Ontario, Canada. Quat. Res. 5:49-87. (1,4)

Site: Southern and eastern Lake Huron and southeastern Georgian Bay
Topic: Quaternary history of the area in terms of pollen analyses and facies description is discussed.

Kite, G. W. 1972. An engineering study of crystal movement around the Great Lakes. Can. Inland Water Branch, Dept. Envir. 57 pp. (2)

Site: Great Lakes basin.
Topic: Summary of methodology used in determination of uplift and some results from the Great Lakes.

Leverett, F. 1939. Correlation of beaches with moraines in the Huron and Erie Basins. Amer. J. Sci. 237:456-475. (1)

Site: Great Lakes basin
Topic: Stratigraphy and correlation of the moraine systems in Ohio, Michigan, Pennsylvania, and New York with their related beaches on the Great Lakes.

Lewis, C. F. M. 1967. Post-glacial uplift studies in northern Lake Huron Basin, pp. 150-151. Can. Geol. Surv. Pap., Paper 67-1, Part A. (1)

Site: North Bay - Manitoulin Island
Topic: Detailed studies of lake levels related to ground level were made in an effort to determine if uplift has occurred and, if so, at what rate and duration.

Lewis, C. F. M. 1969A. Late Quaternary events in Lake Huron and Lake Erie basins, p. 31. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Lewis, C. F. M. 1969B. Late Quaternary history of lake levels in the Huron and Erie basins, pp. 250-270. In: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

Site: Manitoulin Island, Northern Lake Huron
Topic: Cores from nine lakes on Manitoulin Island document a series of lake level fluctuations corresponding to Lake Stanley and Lake Nipissing levels.

Lewis, C. F. M. 1970. Recent uplift of Manitoulin Island, Ontario. Can. J. Earth Sci. 7:665-675. (1)

Site: Manitoulin Island, Northern Lake Huron
Topic: Raised shoreline data, sediment facies, and evidence from eight small lakes in this area suggest Holocene uplift of Manitoulin Island at a rate of 2.2 mm/yr over the last 5,000 yrs.

Maclean, W. F. 1962. Continuous seismic profiles in southwestern Lake Huron. Great Lakes Res. Div., Spec. Report No. 17, Univ. Michigan. 35 pp. (2)

McAndrews. J. H. 1969. Pollen and plant macrofossil stratigraphy of Georgian Bay sediments, p. 53. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

McAtee, C. L. 1977. Palynology of Holocene sediments in Georgian Bay, Ontario, as related to the Great Lakes history. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Mothersill, J. S. 1970. Limnogeological studies from St. Mary's River to Michipicoten Harbour, Lake Superior, Ontario, pp. 631-632. In: Geol. Soc. Amer. Ann. Meeting Abstracts. (2)

Mothersill, J. S. 1980. Stratigraphic correlation of the late Quaternary sediments of Lake Huron by paleomagnetic graphs, p. 26. In: 23rd Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (5)

Nwachukwu, S. O., Beck, A. E., and Currie, J. B. 1965A. Magnetic provinces of Lake Huron and adjacent areas and their geological significance. Can. J. Earth Sci. 2:227-236. (2)

Site: Lake Huron, Georgian Bay, and adjacent regions
Topic: Regional magnetic surveys of the area have been used to study the underlying basin structure of Lake Huron, relative to deformation, eprirogenic movements, and magnetic provinces.

Nwachukwu, S. O., Beck, A. E., and Currie, J. B. 1965B. Regional magnetic map of Lake Huron and adjacent areas. Great Lakes Institute, Preliminary Report No. 22, Univ. Toronto. 5 pp. (2)

Site: Lake Huron, Georgian Bay, and adjacent areas
Topic: Continuous magnetic profiles over area from 1962-1963. Results were used to help describe the underlying geologic structure.

Robertson, J. A. 1963. Geology of the Iron Bridge area. Geol. Report No. 17, Ontario Dept. Mines. 69 pp. (2)

Site: Northern Lake Huron
Topic: Stratigraphy, structural geology, and economic geology of this shoreline area.

Robertson, J. A. 1964. Geology of Scarfe, Mack, Cobden and Striker Townships. Geol. Report No. 20, Ontario Dept. Mines. 89 pp. (2)

Site: Northern Lake Huron
Topic: Stratigraphy, structural geology, and economic geology of this shoreline area.

Robertson, J. A., and Card, K. D. 1972. Geology and Scenery: North shore of Lake Huron Region. Geol. Guidebook No. 4, Ont. Div. Mines, Ministry of Natural Resour. 224 pp. (1, 2)

Site: Northern Lake Huron
Topic: Although primarily a scenic guidebook, it contains much of the geology of this area.

Sly, P. G., and Thomas, R. L. 1974. Review of geological research as it relates to an understanding of Great Lakes limnology. J. Fish. Res. Board Can. 31:795-825. (2,5)

Site: Great Lakes
Topic: Summary of geology, recent sediment history, cross correlation of lake basins, geochemistry, and texture-energy relationships of the sediments are discussed.

Spencer, J. W. 1891A. Deformation of the Algonquin Beach. Amer. J. Sci., 3rd Series 41:12-21. (1)

Site: Lake Huron and Georgian Bay
Topic: Pioneer study of abandoned shoreline and proposed history to explain the observed occurrences.

Spencer, J. W. 1891B. Origin of the basins of the Great Lakes. Amer. Geol. 7:86-97. (1, 2, 4)

Site: Great Lakes basin
Topic: Synthesis of stratigraphy, palynology of abandoned shorelines, hydrography, elevation, and glaciation into a hypothesis on the origin of the Great Lakes basins.

Stanley, G. M. 1936. Lower Algonquin beaches of Penetanguishene Peninsula. Bull. Geol. Soc. Amer. 47:1933-1959. (1)

Site: Northern Lake Huron (Wasaga Beach)
Topic: Development of the history of the Georgian Bay area between the Nipissing and Algonquin stages based on data from abandoned shorelines.

Stanley, G. M. 1937. Lower Algonquin beaches of Cape Rich, Georgian Bay. Geol. Soc. Amer. Bull. 48:1665-1686. (1)

Site: Georgian Bay
Topic: Lake levels and modes of drainage throughout this area's history are explored.

Stanley, G. M. 1938. The submerged valley through Mackinac Straits. J. Geol. 58:966-974. (1, 2)

Site: Straits of Mackinac
Topic: Report on the occurrence of a river valley, which once drained Lake Michigan into Lake Huron, incised during or before the pleistocene.

Terasmae, J. 1979. Radiocarbon dating and palynology of glacial Lake Nipissing deposits at Wasaga Beach, Ontario. J. Great Lakes Res. 5:292-300. (1, 4)

Site: Wasaga Beach, Georgian Bay
Topic: Radiocarbon dating of deposits related to Lake Nipissing from Wasaga Beach indicate that the Lake Nipissing phase of the Great Lakes began 5,700-6,000 years ago and ended 4,500 years ago. Samples of peat, wood, and marl were analyzed.

Terasmae, J., and Hughes, C. L. 1960. Glacial retreat in the North Bay area, Ontario. Science 131:1444-1446. (1, 4)

Site: North Bay and Manitoulin Island
Topic: Geology, palynology, and radiocarbon dates are used to determine the sequence of events during the deglaciation of Ontario and the opening of the North Bay outlet.

Terasmae, J., and Mott, R. J. 1963. Problems of dating abandoned shorelines in the Lake Huron Basin, pp. 169-172. In: Proc. 6th Conf. Great Lakes Res., Great Lakes Res. Div. Publ. No. 10, Univ. Michigan. (1)

Site: Three miles northwest of Underwood and Thetford, Ontario
Topic: Dating the Lake Algonquin stage of Lake Huron and its problems.

Toveli, W. M., McAndrews, J. H., Lewis, C. F. M., Anderson, T. W., and Hoeson, G. E. 1972. Geological reconnaissance of Georgian Bay - a preliminary statement, pp. 15-16. In: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

# IV

# LAKE HURON INPUTS

NOTE: This list contains references which pertain to the atmospheric and fluvial inputs into Lake Huron as defined by the numbers following each reference. Subjects corresponding to the numbers are as follows:
(1) Atmospheric Inputs
(2) Fluvial Inputs

Acres Consulting Services Limited and Applied Earth Science Consultants Inc. 1975. Atmospheric loading of the upper Great Lakes. 3 volumes prepared for Canada Centre for Inland Waters (1)

See p. 1 in Chemistry.

Alexander, D. R., and Maccrimmon, H. R. 1974. Production and movement of juvenile rainbow trout (*Salmo gairdneri*) in a headwater of Bothwells Creek, Georgian Bay, Canada. J. Fish Res. Board Can. 31:117-121. (2)

See p. 1 in Biology.

Alexander, G. R. 1977. Consumption of small trout by large predatory brown trout in the north branch of the Au Sable River, Michigan. Fisheries Res. Report No. 1855, Fisheries Div., Michigan Dept. Nat. Resources. (2)

See p. 1 in Biology.

Applegate, V. C. 1950. Natural history of the sea lamprey (*Petromyzon marinus*) in Michigan. Special Sci. Report: Fisheries, No. 55, U. S. Fish and Wildlife Serv. 237 pp. (2)

See p. 1 in Biology.

Basch, R., Hesse, J., Massey, A., Truchan, J., Willson, R., and Wuerthele, M. 1972. Biological survey of the Tittabawassee River 1971-1972. Michigan Water Resources Comm., Dept. Nat. Resources, Water Quality Div. 98 pp. (2)

See p. 3 in Biology.

Batteke, J. P. H. 1976. Pollution control expenditures and trends in loadings of nutrients and toxic substances to the upper Great Lakes: a policy analysis, p. 58. *In*: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Beeton, A. M. 1970. Statement on pollution and eutrophication of the Great Lakes. Center for Great Lakes Studies, Spec. Report No. 11, Univ. Wisconsin. 35 pp. (2)

See p. 4 in Biology.

Beeton, A. M., Smith, S. H., and Hooper, F. H. 1967. Physical limnology of Saginaw Bay, Lake Huron. Great Lakes Fish. Comm., Tech. Report No. 12. 56 pp. (2)

See p. 4 in Chemistry.

Bell, G. L. 1980A. Lake Huron chemical and physical characteristics data for 1966. NOAA data report GLERL-3. 10 pp. (2)

See p. 5 in Chemistry.

Bell, G. L. 1980B. Straits of Mackinac chemical and physical characteristics data for 1973. NOAA data report ERL GLERL-11. 11 pp. (2)

See p. 5 in Biology.

Berst, A. H., and Spangler, G. R. 1973. Lake Huron. The ecology of the fish community and man's effect on it. Great Lakes Fish. Comm., Tech. Report No. 21. 41 pp. (2)

See p. 6 in Biology.

Browzin, B. S. 1964. Seasonal variations of flow and classification of rivers in the Great Lakes-St. Lawrence basin, pp. 179-204. In: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (2)

Site: Great Lakes basin
Topic: The classification of inflowing rivers to the Great Lakes on basis of average discharge and the yearly mean flow. Some monthly data on discharge rates are presented.

Browzin, B. S. 1966. Annual runoff in the Great Lakes-St. Lawrence basin, pp. 203-219. In: Proc. 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15, Univ. Michigan (2)

Site: Great Lakes basin
Topic: Annual runoff for the Great Lakes area is calculated from 65 stations.

Brunk, I. W. 1959. Precipitation and the levels of Lakes Michigan and Huron. J. Geophys. Res. 64:1591-1595. (1)

Site: Lakes Huron and Michigan basins
Topic: Correlation of precipitation data with fluctuations in lake level.

Brunk, I. W. 1962. Precipitation estimates in the Great Lakes drainage basins. Mon. Weather Rev. 90:79-82. (1,2)

Site: Great Lakes basin
Topic: Review of precipitation estimates from various sources, correlation of precipitation with net basin supply, and reasons for discrepancies in results are discussed.

Canada Centre for Inland Waters. 1972. Canada Centre for Inland Waters - 1971. Environment Canada. 87 pp. (1)

See p. 9 in Biology.

Canale, R. P., Freedman, P. L., Auer, M. T., and Sygo, J. J. 1976. Saginaw Bay limnological data. Michigan Sea Grant Program, Tech. Report No. 54. 175 pp. (2)

See p. 9 in Biology.

Chapra, S. C., and Robertson, A. 1977. Great Lakes eutrophication: the effect of point source control of total phosphorus. Science 196:1447-1450. (2)

See p. 7 in Chemistry.

Conroy, N., Hawley, K., Keller, W., and Lafrance, C. 1976. Influences of the atmosphere on lakes in the Sudbury area, pp. 146-165. In: Proc. First Spec. Symposium on Atmospheric Contribution to the Chemistry of Lake Waters, J. Great Lakes Res. 2 (Supplement 1), Internat. Assoc. Great Lakes Res. (1)

See p. 7 in Chemistry.

Day, P. C. 1926. Precipitation in the drainage area of the Great Lakes, 1875-1924. Mon. Weather Rev. 54:85-106. (1,2)

Site: Great Lakes basin
Topic: Precipitation data and correlation to lake level changes. Synopsis of trends and distribution of precipitation in the Great Lakes basin.

Delumyea, R. G., and Petel, R. L. 1977. Atmospheric input of phosphorus to southern Lake Huron April-October, 1975. Great Lakes Res. Div., Spec. Report No. 61, Univ. Michigan, and USEPA Report No. EPA-600/3-77-038. 54 pp. (1)

See p. 8 of Chemistry.

Dickenson, W. T., Scott, A., and Wall, G. 1975. Fluvial sedimentation in Southern Ontario. Can. J. Earth Sci. 12:1813-1819. (4)

Site: Southwestern Ontario drainage basins
Topic: Determination of sediment loads in seven river basins in southwestern Ontario and their relationship to watershed parameters.

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Site: Lake Huron and Georgian Bay
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O'Connor, D. J., and Mueller, J. A. 1970. Water quality model of chlorides in Great Lakes. Proc. ASCE, J. San. Eng. Div. 96:955-976.

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Richards, T. L. 1964. The meteorological aspects of ice cover on the Great Lakes. Mon. Weather Rev. 92:297-302.

Site: Great Lakes
Topic: Correlation of ice cover with weather, temperature, and index of heat stored in each of the lakes.

Richardson, W. L. 1974A. Modeling chloride distribution in Saginaw Bay, p. 237. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Richardson, W. L. 1974B. Modeling chloride distribution in Saginaw Bay, pp. 462-470. In: Proc. 17th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res.

See p. 26 in Chemistry.

Richardson, W. L. 1976. An evaluation of the transport characteristics of Saginaw Bay using a mathematical model of chloride, pp. 113-139. In: R. P. Canale (Ed.), Modeling Biochemical Processes in Aquatic Ecosystems, Ann Arbor Science Press Publ. Inc., Ann Arbor, Michigan.

See p. 26 in Chemistry.

Richardson, W. L., and Bierman, V. J., Jr. 1976. A mathematical model of pollutant cause and effect in Saginaw Bay, Lake Huron, pp. 138-158. In: Water Quality Criteria Research of the USEPA, Proceedings of an EPA-Sponsored Symposium. USEPA Report No. EPA-600/3-76-079.

See p. 33 in Biology.

Richardson, W. L., Filkins, J. C., Thomann, R. V., and Mueller, J. A. 1981. Dynamic mass balance of PCB in Saginaw Bay, p. 23. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Robertson, D. G., and Jordan, D. E. 1976. Digital bathymetry of Lakes Ontario, Erie, Huron, Superior, and Georgian Bay. Unpubl. Report, Canada Centre for Inland Waters, Environment Can. 10 pp.

Site: Lakes Ontario, Huron, Erie, Superior, and Georgian Bay
Topic: Computerization of bathymetry in a 2km grid system.

Rogers, R. H., McKeon, J. B., and Smith, V. E. 1976. Computer mapping of Saginaw Bay water quality from Landsat, p. 73. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Scavia, D. 1981. Uncertainty analysis of a eutrophication model of Saginaw Bay, p. 37. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Singer, P. E., O'Melia, C. R., Tobiason, J. E., and Dempsey, B. A. 1978. Equilibrium modeling of trace metals in Saginaw Bay, p. 167. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Smith, V. E., Lee, K. W., Filkins, J. C., Hartwell, K. W., Rygwelski, K. R., and Townsend, J. M. 1977. Survey of chemical factors in Saginaw Bay (Lake Huron). USEPA Report No. EPA-600/3-77-125. 143 pp.

See p. 30 in Chemistry.

Sullivan, P. J. 1965. A description of the relative turbulent dispersion of a cloud of marked fluid elements using a distance neighbour function, pp. 4-46. In: Baie du Dore Report 1965 - Mixing Processes and Internal Waves, Great Lakes Inst., Prel. Report No. 26, Univ. Toronto.

Site: Baie du Dore station
Topic: Use of fluorescent tracer dye experiments to study dispersion from a point source.

Taitt, B. J., and Bamblin, P. F. 1977. Observations and theoretical predictions of vertical mixing characteristics in a coastal area of Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Tiffany, M. A., Winchester, J. W., and Loucks, R. M. 1969. Natural and pollution sources of iodine, bromine, and chlorine in the Great Lakes. J. Water Poll. Contr. Fed. 41:1319-1329.

See p. 32 in Chemistry.

# VI

## LAKE HURON PHYSICS

NOTE: This list contains references which pertain to the physical aspects of Lake Huron water and sediments as defined by the numbers following each reference. Subjects corresponding to the numbers are as follows:

(1) Physical Characteristics of Water (pH, Eh, temperature, etc.)
(2) Physical Characteristics of Lake Basin (bathymetry, etc.)
(3) Water Movement (waves, currents, etc.)
(4) Sediment Physics (erosion, deposition, etc.)

Acres, H. G., Limited. 1970. Thermal inputs to the Great Lakes 1968-2000. Inland Waters Branch, Dept. Energy, Mines, and Resources, Canada Centre for Inland Waters. 93 pp. (1)

Site: Great Lakes basin
Topic: Examination of present heat inputs to the Great Lakes, primarily from thermal generating stations. Future plants are assessed for their potential environmental thermal impact.

Adams, C. E., Jr. 1976. Sound speed and apparent depth variations in the Great Lakes, p. 12. In: 19th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (2)

Adams, C. E., Jr., and Smith, L. B., Jr. 1973. Petrographic and chemical properties of Great Lakes ice, pp. 626-639. In: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

See p. 1 in Chemistry.

Allen, H. E. 1964. Chemical characteristics of south-central Lake Huron, pp. 45-53. In: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (1)

See p. 2 in Chemistry.

Allender, J. H., and Green, A. W. 1976A. Free mode coupling of Saginaw Bay and Lake Huron. J. Great Lakes Res. 2:1-6. (3)

See p. 1 in Modeling.

Allender, J. H., and Green, A. W. 1976B. Results from a numerical model for simulating circulation patterns and chlorinity distributions in Saginaw Bay. J. Great Lakes Res. 2:7-12. (3)

See p. 2 in Chemistry.

Anderson, D. V. 1961. A note on the morphology of the basins of the Great Lakes. J. Fish. Res. Board Can. 18:273-277. (2)

See p. 1 in Modeling.

Assel, R. A. 1974. Great Lakes ice cover, winter 1973-74. NOAA Tech. Report ERL 325-GLERL 1. 52 pp. (1)

Site: Great Lakes basin
Topic: Ice cover, formation, growth, and decay based on satellite observations, surface ice reports, and aerial reconnaissance.

Assel, R. A., Boyce, D. E., Dewitt, E. H., Wartha, J., and Keyes, F. A. 1979. Summary of Great Lakes weather and ice conditions, winter 1977-78. NOAA Tech. Memorandum ERL GLERL-26. 123 pp. (1)

Site: Great Lakes basin
Topic: Report of the 1975-1976 ice cover, formation, growth, and decay by week.

Ayers, J. C. 1959. The currents of Lakes Michigan and Huron. Great Lakes Res. Inst., Spec. Report No. 5, Univ. Michigan. 51 pp. (3)

Site: Lakes Michigan and Huron
Topic: The surface circulation patterns of Lakes Michigan and Huron are described utilizing drift bottle data, current meter, and water temperature data.

Ayers, J. C. 1960. Status and programs, pp. 61-74. In: Proc. 3rd Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 4, Univ. Michigan. (3)

Site: Straits of Mackinac
Topic: Water volume transport and sediment descriptions for the Straits of Mackinac region.

Ayers, J. C. 1962. Great Lakes waters, their circulation and physical and chemical characteristics, pp. 71-89. In: H. J. Pincus (ed.), Great Lakes Basin, Publ. No. 71, Amer. Assoc. Adv. Sci. (1, 3)

See p. 3 in Chemistry.

Ayers, J. C., Anderson, D. V., Chandler, D. C., and Lauff, G. H. 1956. Currents and water masses of Lake Huron. Ont. Dept. Lands and Forests, Res. Report No. 35 and Great Lakes Res. Inst., Publ. No. 1, Univ. Michigan. (1, 3)

See p. 3 in Chemistry.

Bajournas, L. 1961. Littoral transport in the Great Lakes, pp. 326-341. In: J. W. Johnson (ed.), Proc. 7th Conf. Coastal Engin., Council of Wave Res., Univ. California. (4)

See p. 2 of Modeling.

Basch, R., Hesse, J., Massey, A., Truchan, J., Willson, R., and Wuerthele, M. 1972. Biological survey of the Tittabawassee River 1971-1972. Mich. Water Resources Comm., Dept. Nat. Resources, Water Quality Div. 98 pp. (1)

See p. 3 in Biology.

Beeton, A. M. 1958. Relationship between secchi disc readings and light penetration in Lake Huron. Trans. Amer. Fish. Soc. 87:73-79. (1)

Site: Great Lakes
Topic: Overview of physical, chemical, and biological characteristics.

Beeton, A. M. 1960. Great Lakes limnological investigations, pp. 123-128. In: Proc. 3rd Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 4, Univ. Michigan. (1)

See p. 3 in Biology.

Beeton, A. M. 1962. Light penetration in the Great Lakes, pp. 68-76. In: Proc. 5th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 9, Univ. Michigan. (1)

Site: Great Lakes
Topic: Incident and subsurface levels of light were measured, including spectral distribution of penetrated light.

Beeton, A. M. 1965. Eutrophication of the St. Lawrence Great Lakes. Limnol. Oceanogr. 10:240-254. (1)

See p. 4 in Biology.

Beeton, A. M. 1971. Chemical characteristics of the Laurentian Great Lakes, pp. 1-29. In: R. A. Sweeney (ed.) Proc. Conf. on Changes in the Chemistry of Lakes Erie and Ontario. Bull. Bufalo Soc. Nat. Sci., v. 25. (1)

See p. 4 in Chemistry.

Beeton, A. M., and Chandler, D. C. 1963. The St. Lawrence Great Lakes, pp. 535-558. In: D. G. Frey (ed.) Limnology in North America, Univ. Wisconsin, Madison. (1,3)

See p. 4 in Biology.

Beeton, A. M., Smith, S. H., and Hooper, F. H. 1967. Physical limnology of Saginaw Bay, Lake Huron. Great Lakes Fish. Comm., Tech. Report No. 12. 56 pp. (1,3)

See p. 4 in Chemistry.

Bell, G. L. 1980A. Lake Huron chemical and physical characteristics data for 1966. NOAA Data Report ERL GLERL-3. 10 pp. (1)

See p. 5 in Chemistry.

Bell, G. L. 1980B. Straits of Mackinac chemical and physical characteristics data for 1973. NOAA Data Report ERL GLERL-11. 11 pp. (1)

See p. 5 in Biology.

Bergs, A. 1964. Surface waves and sub-surface particle movements due to waves, pp. 102-126. In: Hydrodynamic Studies on Lake Huron at Baie du Dore, 1964. Great Lakes Inst., Prel. Report No. 19, Univ. Toronto. (3)

Site: Baie du Dore station
Topic: Observations of surface waves, velocities, and sub-surface water particle movements, and harmonic analysis of wave amplitude over a given frequency range are compared to theoretical predictions.

Bergs, A. 1965. Surface waves and subsurface particle movement due to waves, pp. 291-298. In: Proc. 8th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 13, Univ. Michigan. (3)

Site: Douglas Point, Lake Huron
Topic: Measurement and analysis of surface waves and their impact upon the movement of sediment particles.

Berretta, M. G. 1964. Current measurements, pp. 4-75. In: Hydrodynamic Studies on Lake Huron at Baie du Dore, 1964. Great Lakes Inst., Prel. Report No. 19, Univ. Toronto. (3)

Site: Baie du Dore station, Lake Huron
Topic: Use of drogues set for various depths to trace current directions and velocities.

Bierman, V. J., Jr., and Richardson, W. L. 1976. Mathematical model of phytoplankton growth and class succession in Saginaw Bay, Lake Huron, pp. 159-173. In: Water Quality Criteria Research of the USEPA, Proceedings of an EPA-Sponsored Symposium. USEPA Report No. EPA-600/3-76-079. (3)

See p. 6 in Biology.

Birchfield, G. E. 1969. Preliminary numerical studies on wind-driven currents in the Lake Michigan-Huron basin, p. 59. In: 12th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Birchfield, G. E., and Murty, T. S. 1974. A numerical model for wind-driven circulation in Lakes Michigan and Huron. Mon. Weather Rev. 102:157-165. (3)

See p. 3 in Modeling.

Blanton, J. O. 1973. Vertical entrainment into the epilimnia of stratified lakes. Limnol. Oceanogr. 18:697-704. (3)

See p. 5 in Chemistry.

Bolsenga, S. J. 1969. Total albedo of Great Lakes Ice. Wat. Resour. Res. 5:1132-1133. (1)

Site: Great Lakes
Topic: Albedo measurements on the various types of ice common to the Great lakes.

Bolsenga, S. J. 1975. Estimating energy budget components to determine Lake Huron evaporation. Water Resources Res. 11:661-666. (1)

Site: Lake Huron
Topic: Estimation of the amount of evaporation from Lake Huron by both energy budget and mass transfer methods.

Boyce, F. M. 1974. Some aspects of Great Lakes physics of importance to biological and chemical processes. J. Fish. Res. Board Can. 31:689-730. (3)

Site: Great Lakes
Topic: Discussion of large-scale physical properties of the Great Lakes.

Boyd, G. L. 1981. Shore protection on the Great Lakes Canadian shoreline circa 1976, p. 33. In: 24th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res.

Brinkhurst, R. C. 1967. The distribution of aquatic oligochaetes in Saginaw Bay, Lake Huron. Limnol. Oceanogr. 12:137-143. (2)

See p. 7 in Biology.

Brunk, I. W. 1959. Precipitation and the levels of Lakes Michigan and Huron. J. Geophys. Res. 64:1591-1595. (1)

See p. 3 in Inputs.

Bryson, R. A., and Stearns, C. R. 1959. A method for the mixing of the waters of Lake Huron and South Bay, Manitoulin Island. Limnol. Oceanogr. 4:246-251. (3)

See p. 3 in Modeling.

Canada Centre for Inland Waters. 1972. Canada Centre for Inland Waters - 1971. Environment Canada. 87 pp. (1, 2, 3, 4)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1973. Canada Centre for Inland Waters - 1972. Environment Canada. 125 pp. (4)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1974. Canada Centre for Inland Waters - 1973. Environment Canada. 173 pp. (3,4)

See p. 6 in Chemistry.

Canada Centre for Inland Waters. 1975. Canada Centre for Inland Waters - 1974. Environment Canada. 138 pp. (1)

See p. 9 in Biology.

Canada Centre for Inland Waters. 1977. Branch Annual Report 1976. Fish. and Environment Canada. 64 pp. (1,4)

See p. 6 in Chemistry.

Canale, R. P., Freedman, P. L., Auer, M. T., and Sygo, J. J. 1976. Saginaw Bay limnological data. Michigan Sea Grant Program, Tech. Report No. 54. 175 pp. (1)

See p. 9 in Biology.

Chandler, D. C. 1964. The St. Lawrence Great Lakes. Verh. Internat. Verein. Limnol. 15:59-75. (1)

See p. 10 in Biology.

Cole, A. L. 1971A. Hindcast waves for the western Great Lakes, pp. 412-421. In: Proc. 14th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

Site: Lakes Michigan, Huron, and Superior
Topic: Measurement of significant wave heights and periods.

Cole, A. L. 1971B. Hindcast waves for the western Great Lakes, pp. 43-44. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Cole, A. L., and Hilfiker, R. C. 1970. Wave statistics for Lakes Michigan, Huron, and Superior. Dept. Meteor. and Oceanogr., Office Res. Admin. Project No. 01498, Final Report No. 01498-1-F, Univ. Michigan. 29 pp. (3)

See p. 3 in Modeling.

Conroy, N., Hawley, K., Keller, W., and LaFrance, C. 1976. Influences of the atmosphere on lakes in the Sudbury area, pp. 146-165. In: Proc. First Spec. Symposium on Atmospheric Contribution to the Chemistry of Lake Waters, J. Great Lakes Res. 2 (Supplement 1) Internat. Assoc. Great Lakes Res. (1)

See p. 7 in Chemistry.

Crawford, W. R. 1972. The behavior of a warm water plume discharged into a shore parallel current in Lake Huron, p. 30. In: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Csanady, G. T. 1963. Turbulent diffusion in Lake Huron. J. Fluid Mech. 17:360-384. (3)

Site: Douglas Point, Lake Huron
Topic: Floats and dye plume meandering were used to study turbulent diffusion processes in Lake Huron.

Csanady, G. T. 1964A. Diffusion studies, pp. 85-101. In: Hydrodynamic studies on Lake Huron at Baie du Dore, 1964. Great Lakes Inst., Prel. Report No. 19, Univ. Toronto. (3)

Site: Baie du Dore Research Station
Topic: Dye-plume studies of horizontal and vertical diffusivity in Lake Huron.

Csanady, G. T. 1964B. Turbulence and diffusion in the Great Lakes, pp. 326-339. In: Proc. 7th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 11, Univ. Michigan. (3)

Site: Lake Huron and western basin of Lake Erie
Topic: Turbulent (vertical) diffusion was measured at various depths by concentration of dye released from a point source.

Csanady, G. T. 1965. Windrow studies, pp. 60-82. In: Baie du Dore Report 1965 - Mixing Processes and Internal Waves. Great Lakes Inst., Prel. Report No. 26, Univ. Toronto. (3)

Site: Baie du Dore Station
Topic: Relationship of windrows to heat flow and vertices.

Csanady, G. T. 1966. Dispersal of foreign matter by the currents and eddies of the Great Lakes, pp. 283-294. In: Proc. 9th Conf. Great Lakes Res., Great Lakes Res. Div., Publ. No. 15, Univ. Michigan. (3)

Site: Baie du Dore Station, Lake Huron
Topic: Dispersal processes of the Great Lakes and their effectiveness at reducing concentrations of effluent and waste.

Csanady, G. T. 1967A. Large-scale diffusion experiments at Douglas Point, pp. 274-276. In: Proc. 10th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

Site: Eastern Lake Huron
Topic: The diffusion and behavior of the cooling water-plume from the Douglas Point nuclear power station were studied using Rhodamine-B dye.

Csanady, G. T. 1967B. Large-scale motion in the Great Lakes. J. Geophys. Res. 72:4151-4162. (3)

See p. 4 in Modeling.

Csanady, G. T. 1968. Wind-driven summer circulation in the Great Lakes. J. Geophys. Res. 73:2579-2589. (3)

See p. 4 in Modeling.

Csanady, G. T. 1973. Big eddies and mixing processes in the Great Lakes. USEPA Report No. EPA-660/3-73-011. 13 pp. (3)

Site: Baie du Dore Station, Lake Huron
Topic: Turbulence and mixing processes active in Great Lakes waters were examined to determine their effectiveness at dispersing effluent wastes.

Csanady, G. T. 1974. Surface mixed layer experiment (SMILE) in Lake Huron, p. 28. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Csanady, G. T., and Crawford, W. 1971. Thermal plume at Douglas Point, Lake Huron, p. 113. In: 14th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1, 3)

Csanady, G. T., and Mekinda, M. 1970A. Current direction fluctuations in Lake Huron, p. 78. In: 13th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Csanady, G. T., and Mekinda, M. 1970B. Rapid fluctuations of current direction in Lake Huron, pp. 397-412. In: Proc. 13th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

Site: Baie du Dore research station
Topic: Measurements of current direction fluctuations at a fixed point in Lake Huron relative to very sharp density gradients.

Csanady, G. T., Crawford, W. R., and Pade, B. 1971. Thermal plume at Douglas Point, Lake Huron, pp. 522-534. In: Proc. 14th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1, 3)

Site: Douglas Point, Lake Huron
Topic: A study of the thermal plume created by the Douglas point nuclear generating station.

Csanady, G. T., Ellenton, H. K., and Deane, R. E. 1962. Slicks on Lake Huron. Nature: 1305-1306. (3)

Site: Douglas Point
Topic: Experiments on the formation of slicks in Lake Huron.

Csanady, G. T., Jones, I. S. F., and Kenney, B. C. 1967. Douglas Point "saturation run," 1967. Great Lakes Inst., Prel. Report No. 30, Univ. Toronto. (3)

Site: Douglas Point
Topic: Continuous discharge of Rhodamine B dye (3 weeks) to test for buildup of concentration along the shoreline due to coastal entrapment mechanisms and retardation of vertical diffusivity.

Danek, L. J. and Saylor, J. H. 1975. Saginaw Bay water circulation. NOAA Tech. Report ERL 359-GLERL 6, GLERL Contr. No. 45. 50 pp. (3)

Site: Saginaw Bay
Topic: Current meters were used to describe circulation patterns in the bay.

Danek, L. J., and Saylor, J. H. 1977. Measurements of the summer currents in Saginaw Bay, Michigan. J. Great Lakes Res. 3:65-71. (3)

Site: Saginaw Bay
Topic: Data from 18 moored current meters taken from May, 1974 - October, 1974 as well as drogue studies were used to model the summer circulation of Saginaw Bay.

Davidson-Arnott, R. G. D., and Pollard, W. H. 1980. Wave climate and potential longshore sediment transport patterns, Nottawasaga Bay, Ontario. J. Great Lakes Res. 6:54-67. (3,4)

Site: Nottawasaga Bay, Georgian Bay
Topic: Wave hindcasting is used with computer modeling to determine sediment transport patterns in the bay.

Davidson-Arnott, R. G. D., Marini, I. P., and Ball, J. 1978. Nearshore sediments of Nottawasaga Bay, southern Georgian Bay, p. 40. In: 21st Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Dobson, H. F. H. 1974. A preliminary account of water quality trends in the Great Lakes, p. 142. In: 17th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (1)

Dobson, H. F. H., Gilbertson, M., and Sly, P. G. 1974. A summary and comparison of nutrients and related water quality in Lakes Erie, Ontario, Huron, and Superior. J. Fish. Res. Board Can. 31:731-738. (1)

See p. 9 in Chemistry.

Donn, W. L. 1959. The Great Lakes storm surge of May 5, 1952. J. Geophys. Res. 64:191-198. (3)

Site: Lakes Huron and Erie
Topic: Discussion of the causes and effects of the storm surge of May 5, 1952, including seiche, edge wave, and topography effects.

Drummond, A. T. 1890. Some temperatures in the Great Lakes and St. Lawrence. Can. Record Science 4:77-85. (1)

Site: Great Lakes basin
Topic: Discussion of temperature regimes in the Great Lakes, including temperature profiles, currents, and depth relationships.

East Central Michigan Planning and Development Region. 1977. Areawide Waste Treatment Management Plan, App. 7, 8. Water Quality Inventory and Environmental/Water Quality Relationships, Prel. Draft. (1)

See p. 13 in Biology.

East Central Michigan Planning and Development Region. 1978. Areawide Waste Treatment Management Plan, App. 8-10. Water Quality Relationships, V. I. A. Prel. Draft. (1).

See p. 10 in Chemistry.

Elder, F. C. 1975. International Joint Commission program for atmospheric loading of the Upper Great Lakes, pp. 289-305. In: Proc. 2nd Federal Conf. Great Lakes, Interagency Committee on Mar. Science and Eng. of the Federal Council for Science and Technology. (1)

See p. 10 in Chemistry.

Emery, A. R. 1970. Fish and crayfish mortalities due to an internal seiche in Georgian Bay, Lake Huron. J. Fish. Res. Board Can. 27:1165-1168. (1)

See p. 14 in Biology.

Freedman, P. L. 1974. Saginaw Bay: an evaluation of existing and historical conditions. USEPA Report No. EPA-905/9-74-003. 137 pp. (1)

See p. 12 in Chemistry.

Freeman, N. G., and Murty, T. S. 1972A. A study of a storm surge on Lake Huron, pp. 107-108. In: 15th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (3)

Freeman, N. G., and Murty, T. S. 1972B. A study of a storm surge on Lake Huron, pp. 565-582. In: Proc. 15th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

Site: Southern Lake Huron
Topic: A study of the storm surge of 22 August 1971. The study dealt with the relative importance of the pressure gradient force and wind stress in creating the surge.

Freeman, N. G., Murty, T. S., and Haras, W. S. 1972. A study of a storm surge on Lake Huron, p. 21. In: Coll. Abstracts, 3rd Can. Oceanogr. Sympos., Burlington, Ontario. (3)

French, W. E. 1960. The sedimentary environment of southern Lake Huron. MS Thesis, Univ. Michigan. 23 pp. (4)

Site: Southwestern Lake Huron
Topic: The distribution and texture of surficial sediments in southwestern Lake Huron.

Fry, F. E. J. 1956. Movement of drift cards in Georgian Bay in 1953. J. Fish. Res. Board Can. 13:1-5. (3)

Site: Georgian Bay
Topic: Measurement of surface circulation patterns by drift cards.

Glooschenko, W. A., Moore, J. E., and Vollenweider, R. A. 1973. Chlorophyll a distribution in Lake Huron and its relationship to primary productivity, pp. 40-49. In: Proc. 16th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (1)

See p. 16 in Biology.

Glooschenko, W. A., Strachan, W. M. J., and Sampson, R. C. J. 1976. Distribution of pesticides and polychlorinated biphenyls in water, sediments, and seston of the upper Great Lakes. Pest. Monitor. J. 10:61-67. (4)

See p. 13 in Chemistry.

Graham, E. J., and Rea, D. K. 1977. Sedimentation in the Alpena basin, Lake Huron. In: 20th Conf. Great Lakes Res. Abstracts, Internat. Assoc. Great Lakes Res. (4)

Great Lakes Basin Commission. 1976A. Surface Water Hydrology. Great Lakes Basin Framework Study, App. 2. 133 pp. (3)

See p. 8 in Inputs.

Great Lakes Basin Commission. 1976B. Geology and Ground Water. Great Lakes Basin Framework Study, App. 3. 152 pp. (2)

See p. 13 in Chemistry.

Great Lakes Basin Commission. 1976C. Limnology of Lakes and Embayments. Great Lakes Basin Framework Study, App. 4. 441 pp. (1, 2, 3, 4)

See p. 18 in Biology.

Great Lakes Basin Commission. 1976D. Water Quality. Great Lakes Basin Framework Study, App. 7. 228 pp. (1)

See p. 18 in Biology.

Great Lakes Basin Commission. 1976E. Levels and Flows. Great Lakes Basin Framework Study, App. 11. 207 pp. (3)

Site: Great Lakes basin
Topic: Factors affecting water levels and outflows are discussed.

Great Lakes Basin Commission. 1976F. Shore Use and Erosion, Great Lakes Basin Framework Study, App. 12. 111 pp. (4)

See p. 4 in Geology.

Great Lakes Basin Commission. 1976G. Erosion and Sedimentation, Great Lakes Basin Framework Study, App. 18. 127 pp. (4)

See p. 3 in Geology.

Great Lakes Institute. 1964A. Great Lakes Institute data record - 1962 surveys. Part II. Lake Huron, Georgian Bay, and Lake Superior. Prel. Report No. 17, Univ. Toronto. 157 pp. (1)

See p. 18 in Biology.

Great Lakes Institute. 1964B. Douglas Point project annual report 1964. Prel. Report No. 20 (Restricted*), Univ. Toronto. 34 pp. (3)

See p. 18 in Biology.

Great Lakes Institute. 1965. Great Lakes Institute data record - 1963 surveys. Part II. Lake Huron, Georgian Bay, and Lake Superior. Prel. Report No. 24, Univ. Toronto. 104 pp. (1)

See p. 18 in Biology.

Grumblatt, J. I. 1976. Great Lakes water temperatures, 1966-1975. NOAA Tech. Memorandum ERL GLERL-11-1. (1)

Site: Great Lakes
Topic: Accumulation of 10 years of water temperature data. It is presented in the form of hourly, daily, and monthly tables.

Hachey, H. B. 1952. Vertical temperature distribution in the Great Lakes. J. Fish. Res. Board Can. 9:325-328. (1)

Site: Great Lakes
Topic: Vertical temperature profiles for the Great Lakes.

Hale, A. M. 1964. Internal waves in Lake Huron, pp. 127-144. In: Hydrodynamic Studies on Lake Huron at Baie du Dore, 1964. Great Lakes Inst., Prel. Report No. 19, Univ. Toronto. (3)

Site: Baie du Dore
Topic: Use of continuous temperature profiles at three different stations to measure characteristics of internal waves.

Hale, A. M. 1965. Internal waves in Lake Huron, pp. 47-59. In: Baie du Dore Report 1965 - Mixing Processes and Internal Waves. Great Lakes Inst., Prel. Report No. 26, Univ. Toronto. (3)

Site: Baie du Dore Station
Topic: Temperature profiles at three different stations to study internal wave propagation.

Hale, A. M. 1969A. Internal waves of the second vertical mode in Lake Huron, pp. 484-566. In: Proc. 12th Conf. Great Lakes Res., Internat. Assoc. Great Lakes Res. (3)

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